Request for tenders for hydrology studies and reviews with subsequent recommendations for capital works at Loynton Moss SSSI and Doxey Marshes SSSI

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Deadline for responses: Friday 2nd August 2019

In the course of delivering restoration of Loynton Moss and Doxey Marshes Nature Reserves, Staffordshire Wildlife Trust is seeking quotes for the following works, and invites you to provide a quote for our consideration.

Please note that this request to provide a quote does not constitute a guarantee that the work will be offered. Staffordshire Wildlife Trust will inform all quote providers of the status of their quote. The Trust reserves the right to appoint multiple suppliers / contractors selected from those who supply a response to this invitation, or none at all, as required by the circumstances of the project.

The Trust reserves the right to appoint suppliers based on a range of relevant criteria including but not limited to the contractor's experience and ability to deliver the specific requirements of the works, the delivery timescales, internal and project-level procurement policies and cost.
Acceptance of any provided quote will be communicated to the successful contractor and confirmation of the instruction to deliver the works requested will be confirmed by purchase order.

Thank you for taking the time to consider this request.

Yours faithfully

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1. Introduction

Staffordshire Wildlife Trust, as part of a partnership led by Shropshire Wildlife Trust have received funding from DEFRA for the Restoration of Peatland in England.

Staffordshire Wildlife Trust is working to achieve favourable condition status of the Sites of Special Scientific Interest at Loynton Moss and Doxey Marshes. Both sites are currently in unfavourable status because of hydrological issues.

Loynton Moss, near Eccleshall in Staffordshire is one of the Meres & Mosses of the north west Midlands, which form a nationally important series of open water and peatland sites. Loynton Moss formed in a natural depression in the glacial drift left by the ice sheets which covered the area some 15,000 years ago.

Doxey Marshes is an extensive area of low-lying damp grassland, peatland, marsh, swamp and pools in the flood plain of the River Sow, reaching almost into the centre of Stafford. The site is of ornithological importance all year round and has special significance for the numbers of breeding snipe.

There have been long standing concerns that the hydrology of both sites is much drier in places that it should be given its topography and semi-natural environment. Site assessments have identified that further work is needed to address the uncertainty.

Work has been undertaken at both sites to hold back water in key areas, however both sites are still not suitably dry enough throughout the year to enable the SSSI condition of both sites to be Favourable.

This contract therefore requires a predominantly eco-hydrological investigation. It must build upon existing knowledge, and, most importantly, develop a restoration plan of capital works for both sites that can secure favourable condition status.

Details of relevant studies and research previously undertaken can be found in the appendices section.

2. Loynton Moss SSSI

The development of the kettle hole associated habitats is associated with peat accumulation which in the case of Loynton Moss has led to the complete infilling of the basin. Loynton Moss was acquired by SWT in 1970, with subsequent land acquisitions making the current SWT landholding 54 hectares.

Until relatively recently, only a small part of the original kettle hole remained open – an area of open water known as Blakemere Pool. This pool has subsequently succeeded to fen habitat in the 1900's. This area is dominated by common reed, but other plants found here include cowbane, lesser pond sedge, branched bur-reed and marsh cinquefoil. Successional scrub covering the rest of the 'Moss' SSSI unit has over time been removed by SWT, leaving a large open area with remaining scrub, and a large area of wet-woodland forming the remaining unit of the SSSI. The Shropshire Union Canal, dug in the early 1800's, passes through part of the reserve. The creation of the canal cut off the Moss's natural water source. Various attempts

have been made in the past to restore the flow of water, all have proved unsuccessful. The Moss is now entirely fed by rainwater.

The surrounding fields to the west and north of the SSSI were acquired by the Trust with the aim of buffering the SSSI. Various drains have been blocked, holding water back on the SSSI. The original intention was to re-wet these former arable fields to create wet-grassland wader habitats. However it was discovered the amount of works required to create conditions suitable for waders would have a negative impact on neighbouring landowners, therefore these fields have been restored to a species-rich grassland. These fields now provide a beautiful display of wildflowers in the late Spring.

The whole reserve is important for insects associated with fen & carr including butterflies and dragonflies.

A variety of bird species are also found here utilising the mix of woodland and wetland. Notable species that can be found here include Sedge and Grasshopper warblers in the central moss, and the rapidly declining Willow tit in the wet woodland.

Staffordshire Wildlife Trust has carried out work on the reserve to re-wet key sections of the reserve. Some control structures have been installed and some ditches blocked. Work to reinstate the natural flow of water across the canal aqueduct has been unsuccessful.

A SSSI condition assessment, carried out by Natural England in 2018 concluded that all targets had been achieved apart from the hydrological target, and that more or better ditch-blocking might be needed.

3. Doxey Marshes

Doxey Marshes is a 107 hectare Site of Scientific Interest stretching from the M6 right into the heart of central Stafford. The reserve follows the floodplain of the River Sow and extends either side of the West Coast Mainline Railway. The reserve is a mix of large areas of low-lying pasture, wet grassland and lowland fen.

Several large lakes, or 'Flashes' occur sporadically throughout the reserve. The river Sow once meandered across the wide valley, in more recent times, the river was deepened and straightened in efforts to control floodwater through Stafford. With the construction of the main railway line in the late 1800's the river was further canalised and straightened. The landscape has been altered significantly by man.

The spread of urban Stafford continues to be a pressure on the reserve with developments in the planning pipeline further threatening the peace and tranquillity of the reserve. The low-lying areas and Flashes were caused by subsidence of the surrounding land due to brine extraction for salt. Water was pumped underground to remove salt in the form of brine. The large cavities left underground as a result are collapsing, resulting in the surface of the reserve subsiding.

It is thought that the reserve was once part of a larger system of water meadows stretching to Seighford, though no structures remain other than two brick culverts over the old Darling river dating from the 1800's.

For a reserve so influenced and disturbed by human activity, the reserve is surprisingly peaceful and quiet, and hosts a vast array of birdlife, hence it's SSSI designation. The SSSI designation is for lowland fen and rush-pasture habitat and breeding snipe, though the reserve hosts many different breeding waders including lapwing, little ring plover, redshank. During recent years, as breeding wader numbers in the lowlands have plummeted, they have followed similar trend at Doxey Marshes. The reserve is still an important overwintering area for waders including hundreds of snipe, large flocks of lapwing and large numbers of wildfowl.

During the spring, the reserve chatters noisily with many species of warblers utilising the scrub and reedbed areas. The reserve also hosts some interesting wetland flora, with the pink flowering rush found sporadically across the reserve, and areas of species-rich fen and rush-pasture habitat holding a variety of species including meadow rue, tubular water-dropwort, fine-leaved water-dropwort and marsh arrow-grass.

When the river was engineered, the reserve was drained, the quality of the habitat was altered. The reserve still floods, but waters swiftly find their way back into the river network via the drainage ditch infrastructure.

Several large projects to hold water back on the reserve have been undertaken. Drains have been blocked and sluices installed. More recently in 2013 part of a wide ranging water level management plan was installed, mostly across the northern part of the reserve. This allows water to be taken onto the reserve when required, and water levels to be raised during the northern areas and lowered when required, without allowing water to flood the farmland upstream. The impact of the Water Level Management Plan structures on bird is still being studied. Only part of the WLMP was ever implemented. Part of this contract is to ascertain whether implementing more of the WLMP structures will have a positive impact on the reserve.

4. Project Overview

The Project needs to be complete and invoiced by the end of March 2020. The aims of the project are as follows:

Loynton Moss

- To better understand the hydrology of the SSSI and its catchment in the surrounding fields.
- To identify specific practical measures using this understanding that can be deployed to restore hydrological functioning to the SWT landholding, with maximum impact on the SSSI, without detrimental impact on neighbouring land. This will involve investigating whether more clean water can be brought onto the SSSI, and whether more can be done to hold water on the SSSI longer.

It consists of two main strands:

- The undertaking of an eco-hydrological investigation of the reserve

- The development of a Management and Restoration Plan of capital works that will secure the favourable condition status of the SSSI.

Doxey Marshes

- The aim of this project is to holding water back on key areas of the reserve for longer periods of time, making the habitat more suitable for breeding waders, without having a detrimental impact on neighbouring landowners.

The specifics of the project are

- To review the Water Level Management Plan, and the elements of the WLMP which have been installed across the reserve.

- Review the hydrology of key areas of the SSSI and develop a Management and Restoration Plan of capital works which will move the site towards favourable status

5. Detailed Requirements

This contract requires:

1. A review of existing reports and information, including aerial photography and Lidar imagery. A list of available reports for information can be found at appendix II.

2. Survey and mapping of surface topography, including assessment of the hydrological condition of the SSSIs.

3. Mapping of surface drainage, channel modifications, blockages, dams etc. and other significant hydrological features (including all visible groundwater outflows - springs, seepages etc.)

4. Identification of measures to remedy hydrological impacts with the objective of restoring something approaching pre-modified hydrological functioning (including cost estimates for any proposed measures).

5. An assessment of issues and constraints for any restoration measures on existing ecological features and neighbouring land.

6. Production of a Restoration and Management Plan which should include an itemised and fully costed Schedule of Works.

7. The Restoration and Management Plan to be submitted in PDF and WORD format accompanied by data in a GIS compatible format (preferably MAPinfo) showing all the relevant information provided in or used to develop the Plan.

8. Presentation of findings and plan jointly to Staffordshire Wildlife Trust at one meeting.

6. Expertise Required

The lead consultant must be an Eco-hydrologist and have substantial experience of developing wetland restoration plans.

It is expected that all of the consultants or sub-contractors involved will have appropriate professional accreditation at a level commensurate with their role in the project.

The Tender response must include:

- the project structure
- a short profile/CV for each member of the team that will be working on the project, indicating their relevant experience in projects of this nature and their professional accreditation and their role and responsibilities

- 3 examples of similar previous work undertaken in the last three years for public or private sector clients, including the names and contact details for these referees

7. Project Management and Liaison with Partners

This Project will be managed on the client side by Jeff Sim for Staffordshire Wildlife Trust.

The successful supplier should expect to attend a set-up meeting to discuss the Project brief. Other meetings with the Project Manager and other key members of staff will be arranged during the contract period.to discuss progress.

Please provide in your tender a brief implementation plan showing how long you expect the different parts of the contract to take to complete.

8. Contract Period

The Restoration Plan and Schedule of Work must be finalised and submitted to the Staffordshire Wildlife Trust by **31 March 2020.**

The Consultant shall provide a work programme identifying how they will meet the requirements of the brief. This should include:

i. A timetable, such as a gantt chart, which demonstrates how they would deliver the work against the required timescale and indicates project milestones and any dependencies or limitations – such as timings for survey work
ii. the time allocation for each stage of work
iii. the time input and day rate by each (named) member of the Consultant team

Staffordshire Wildlife Trust will provide all relevant reports and other documents to the contractor, and Staffordshire Wildlife Trust will arrange access where necessary.

9. Liability and Indemnity

The contractor shall have in place (or be willing to have in place) an appropriate level of Professional Indemnity Insurance, Public Liability Insurance of no less than £5 million and Employers Liability Insurance for this work and to provide Certificates of Insurance as confirmation of the level of cover and any exclusions.

10. **Licensing and Consents**

Consultants will be responsible for organizing and obtaining any licenses and consents that may be required for the work. These should be itemised in the tender and any impact on the timing of the project or its tasks acknowledged.

11. **Ownership**

Given the high level of public investment in these reports, Contractors will need to agree to be bound by the following requirements:

"You agree to:

a. grant to Staffordshire Wildlife Trust an irrevocable, perpetual and royalty-free licence to use, copy, keep and disseminate the Outputs as they see fit.
b. obtain and maintain in force all authorisations of any kind required for you to use, copy, keep and disseminate the Outputs and to grant such licence to us;
c. contract to the effect that any creation by you or on your behalf of material which forms Outputs is undertaken on terms that either the copyright in the material is assigned to you or that the copyright owner may not commercially exploit it;
d. grant licences in respect of the Outputs under the Creative Commons model licence 'Attribution Non-Commercial' but not on other terms without our prior written consent;
e. not otherwise exploit the Outputs commercially without our prior written consent from Staffordshire Wildlife Trust."

Please note that the quotation should include all expenses in the total overall cost as there will be no allowance for adding in these costs later.

12. Tender Returns & Clarifications

The contract will be between the consultant and their client, Staffordshire Wildlife Trust and Tenders should be submitted in accordance with the timescales set out in their request for a quote.

Contractors with any queries during the tender period need to address these directly to their Client.

APPENDIX I

Other information available to the contractor:

Loynton Moss

- Reserve boundary map

- SSSI citation, maps, favourable condition tables.

- SWT Loynton Moss drainage report 2018 (summary of works to hold back water undertaken by SWT)

Paper reports available
- Report: Hydrology of Loynton Moss: 26th March 2006. Kevin Gilman
- Botanical survey of Loynton Moss: November 2005. Chris Hogarth
- Vegetation analysis of Loynton Moss SSSI: September 2004. Judith Weightman.

Doxey Marshes

- Reserve boundary map

- Map showing key bird breeding areas.

- SSSI citation, maps, favourable condition tables.

Other information available
- Doxey Marshes Water Level Management Plan draft. 2006. JBA consulting.

- Doxey Marshes Water Level Management Plan revised proposals for implementation. 2010. JBA Consulting

- Map showing elements of WLMP actually installed.