

Pond Survey on Rougham Estate 2021 – a summary

Rougham Estate's 37 ancient and very well-connected woodland, grass and arable edge ponds have been regularly surveyed since 2003 to prioritise those for restoration and to guide ongoing conservation management.

The Rougham Estate ponds' origins vary from probable claypits and marl pits to possible retting ponds – many of which will have been, or are still, used for watering livestock and holding fish. They are all slightly different in character - size, shape, bank and underwater profile, depth, orientation and adjacent habitat. This creates a 'pondscape' with subtly different pond habitats, providing different conditions for wildlife with slightly different requirements. The ponds support a good range of amphibians, dragonflies, water beetles and water snails, and plants characteristic of ponds of these mixed chalky boulder clay and lighter soils.

- The 2021 survey demonstrated that the open, sunny and well-vegetated ponds have a very satisfactory combined total of 49+ species of aquatic and emergent native plants. Two ponds support Endangered Tassel Stonewort *Tolypella intricata* – this represents 22% of the nine known sites in Suffolk. Stoneworts like early successional stages of ponds (ie the bare substrate with no competition). Hence, they favour ponds where livestock have access to browse other vegetation and disturb the substrate, where its oospores have lain dormant for 100 years or so. These ponds are now being monitored under as part of Natural England's Species Recovery Project.



Tolypella intricata - Tassel stonewort close-up of plant up showing fertile cluster and really close up showing sex cells. © Chris Carter.

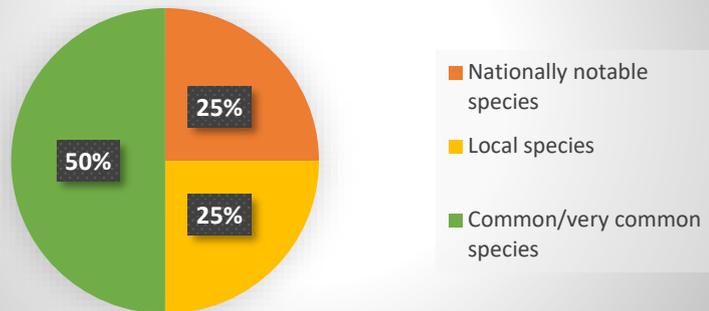
- Also recorded in three ponds was Hairlike Pondweed *Potamogeton trichoides* - a Nationally Scarce species. Other rare aquatic plants recorded in one or more ponds were Thread-leaved Water Crowfoot *Ranunculus trichophyllos*, Horned Pondweed *Zannichelia palustris*, and plants only thinly scattered in Suffolk Lesser Bulrush *Typha angustifolia* and Fine-leaved Water Dropwort *Oenanthe aquatica*.

- Sampling aquatic invertebrates at the best ponds produced a good total list that included 32 species of water beetle, of which eight are Nationally Notable species and eight are Locally Important.



Right: *Rhantus frontalis* is a Nationally Notable water beetle found in one Rougham Estate pond – photo by Wolfram Sondermann CC BY-ND-2.0

Diagram 1: Conservation status of 32 water beetle species recorded in Rougham Estate ponds



Right: 50% of water beetles recorded at Rougham ponds were Nationally Notable or Locally Important in their rarity status.

- 18 Species of dragonfly were recorded on Rougham Estate are relatively widespread generalist farm pond species that all have slightly different ecological niches that allow them to co-exist at the same ponds and some have relatively specialist requirements which can be delivered on a farm level by having a range of pond types. See the Dragonfly Survey for further information.
- Despite this being a relatively low pond density area with large areas of lighter soils, eight ponds support protected Great Crested Newts and they will be present in small populations in other fish-free ponds. They are extremely long-lived creatures (up to 12 years) and where habitat connections are good, will migrate up to 1km a year to suitable ponds, enabling them to move between ponds as some become less/more optimum habitat than others. Smooth newt, with less exacting requirements, were recorded at many ponds.
- Whilst likely to be present but under-recorded, Frogs, Toads and Grass Snakes were not recorded recently so Rougham Estate Trust would be keen to get records from local people so we can pinpoint where there are strongholds and focus some conservation work in these areas.



The Four-spotted Chaser is a widespread pond species in Suffolk. It likes the margins of shallow ponds with well-developed emergent vegetation and some open water.
© Juliet Hawkins



Great Crested Newts were found in eight ponds on Rougham Estate but are likely to be in more.

Pond restoration programme

Historically, most of the Estate ponds would have been accessed by livestock or regularly managed to ensure they stayed sunny and predominantly open. The survey demonstrates that the grassland ponds where livestock have access are generally in good condition and support some very rare plant species and a good range of invertebrates. Elsewhere, shaded ponds, full of leaf litter were identified for restoration and in 2021 several ponds were cleaned out, but some will always be difficult to keep open so will remain as hidden historic features in the Rougham 'pondscape'.



A pond, identified as possibly a former 'retting' pond to rot the fibres of flax or hemp, being cleaned out by a digger. This pond can be seen from the footpath that runs east-west through Mellfield Wood. The historic integrity of the original pond shape and bank profiles have been maintained, meaning there is one gentle access slope where marginal plants can establish into the relatively shallow wood edge pond. © Juliet Hawkins

Several ponds can be seen from public and permissive footpaths on Rougham Estate. Some will be rotationally restored or managed as part of Rougham Estate Trust's ongoing programme to implement management recommendations that protect and enhance the historic, wildlife and landscape value of its ponds. Pond restoration can appear quite harsh at the time, but the improved ponds quickly respond and flourish the following year.

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