

METHOD (complete one survey form per site)

Aims: To find out if Marsh Clubmoss is i) present, ii) get an approximate idea of its location and abundance, iii) collect physical data that can be used to assess the reasons for any change recorded on future visits, and iv) look in any adjacent habitat patches to see if Marsh Clubmoss is present or absent.

The PondNet survey for Marsh Clubmoss is being run in conjunction with a Species Recovery Trust survey to revisit all known sites for Marsh Clubmoss in England and Wales in 2018 and 2019 <http://www.speciesrecoverytrust.org.uk>.

- **Equipment:** It's helpful to take a camera to take confirmatory photos of Marsh Clubmoss, to take photos of your survey site for the record, and to take a photograph of your sketch maps if you don't have access to a scanner – alternatively you can post your survey forms to Freshwater Habitats Trust.
- **Survey timing:** Marsh Clubmoss is an evergreen fir-like clubmoss, with spore producing strobili (see below) which are at their peak from October to November. You should aim to undertake at least one visit during this survey window.
- **Where to look:** Marsh Clubmoss typically grows within wet heaths on bare peat - found at the edges of trackways, where surface water runnels expose bare ground, and on the edges of sphagnum pools.
- **Likely habitats:** Typical plant associates to look out for include White-beaked Sedge *Rhynchospora alba*, Cross-leaved Heath *Erica tetralix*, Purple Moor-grass *Molinia caerulea*, Intermediate-leaved sundew *Drosera intermedia*, Bog Asphodel *Narthecium ossifragum*, Bulbous Rush *Juncus bulbosus*, Carnation Sedge *Carex panicea* and Sphagnum mosses.
- **Survey the area indicated on your map:** The site will have a previous record for Marsh Clubmoss although the plant may not have been recorded since the 1980s, or this may be a new site. Search the area indicated in your site pack for Marsh Clubmoss plants, and if found, record the number of plants (see below), count the number of strobili, draw a sketch map to show the location and extent of Marsh Clubmoss, record the associate species on your map, comment on the condition of the site for Marsh Clubmoss and take lots of photos!
- **How to estimate abundance:** It can be hard to count the number of plants, especially if they are closely growing or very numerous. The best approach is to count the plants in a small area (e.g. 10 cm² or 1 m²), and multiply this by the area in which Marsh Clubmoss plants are found. If Marsh Clubmoss occurs in different densities within the area searched, make separate calculations for each area, and sum them to give a total (see table over page). **Note: we only need the overall total for the area surveyed.**
- **Recording absence:** If Marsh Clubmoss is **not found**, please record this and submit the record.
- **Check other likely habitats in the surrounds:** Finding out if Marsh Clubmoss occurs in other likely habitats within the same site helps us to understand if the species is part of a larger population, which may be important for its survival. Visit other likely habitat patches within the site to see if Marsh Clubmoss is present. **Complete a new form for each site searched.**

Once completed, enter your results online: www.freshwaterhabitats.org.uk/projects/waternet, or give your recording forms and maps to your regional project officer and we can enter data for you: info@freshwaterhabitats.org.uk.

What it looks like: Marsh Clubmoss is a distinctive evergreen clubmoss. The plant grows along the ground (up to 20cm) in a characteristic v-shape (a). Plants will grow and divide, and it is common to find v-shaped plants in the process of sub-division, or divided plants with only half of the v developed. If there is no visible connection between stems, count them as separate plants. The strobili (b) form at the junction of the v and may be up to 10cm high.



Marsh Clubmoss: (a) A single plant with characteristic v-shape stems and additional stem in the process of subdivision; (b) Marsh Clubmoss with strobili and (c) Marsh Clubmoss habitat.



Your name	<input style="width: 95%;" type="text"/>	Date	<input style="width: 95%;" type="text"/>
Square: 4 figure grid ref e.g. SP1243 (see your map)	<input style="width: 95%;" type="text"/>	Site: 8 figure grid ref e.g. SP 1235 4325 (see your map)	<input style="width: 95%;" type="text"/>
Site name (if known)	<input style="width: 95%;" type="text"/>		
Determiner name (<i>optional</i> - if someone confirms the identity of the species you've recorded)	<input style="width: 95%;" type="text"/>	Voucher material (<i>optional</i> - comment if you've taken a photo to confirm identification)	<input style="width: 95%;" type="text"/>

If you find Marsh Clubmoss please take a confirmatory photo. You can also take a photo of your site or your maps (or scan them if you have a scanner) and upload them with the record www.freshwaterhabitats.org.uk/projects/waternet.

Number of Marsh Clubmoss plants

If there are many plants, count the number in a small area (i.e. 1m²) and multiply up. We've put a table below to help you keep track and make notes, but for the analysis **we only need a total**.

Areas where Marsh Clubmoss plants were found (list): use this table to help with your number calculations, and so you/others can re-find plants on future visits.	Number of individuals
1.	<input style="width: 95%;" type="text"/>
2.	<input style="width: 95%;" type="text"/>
3.	<input style="width: 95%;" type="text"/>
4.	<input style="width: 95%;" type="text"/>
5.	<input style="width: 95%;" type="text"/>

Total number of Marsh Clubmoss plants (total count)

Provide a single total for the whole area as the actual or estimated number of plants recorded.
 If more than 100 plants are recorded, recorded the total to the nearest 10 plants.

Total number of Marsh Clubmoss (abundance category)

Then record the number of Marsh Clubmoss using the following abundance categories:
1, 2-5, 6-10, 11-20, 21-50, 51-100, 101-200, 201-500, 501-1000, 1001-5000, 5001-10000, 10001-20000, 20001+

Total number of Marsh Clubmoss strobili

Provide a single total for the whole area as the actual or estimated number of plants recorded.
 If more than 100 strobili are recorded, recorded the total to the nearest 10.

Marsh Clubmoss looked for, but not found

Note: if you don't find evidence of Marsh Clubmoss at the site, this is an important result so please still enter these findings online (tick box if none found)

Sketch map: Make a sketch map of the site and draw on the location of Marsh Clubmoss: use shading if they cover a broad area, or 'x' marks the spot if there are just a few plants. Make a note of the associate species and add any comments on site condition.