S10
Equisetum fluviatile swamp
Equisetetum fluviatile Steffen 1931 *emend.* Wilczek 1935

Synonymy
Equisetum limosum reedswamp Rankin 1911; *Equisetum fluviatile* reedswamp Tansley 1939; *Scirpeto-Phragmitetum medioeuropaeum* (Koch 1926) R.Tx. & Preising 1942 *p.p.*

Constant species
Equisetum fluviatile.

Rare species
Calamagrostis stricta, *Lysimachia thyrsiflora.*

Physiognomy
The *Equisetetum fluviatile* comprises open or closed vegetation up to about 50 cm high in which *Equisetum fluviatile* is generally the most abundant species. No other species is frequent throughout, although in each of the sub-communities some of the associates may be locally abundant and their prominence is often emphasised by the thin shoots of the 'dominant'.

Sub-communities

***Equisetum fluviatile* sub-community:** Open *Equisetum fluviatile* sociation Spence 1964; Sociatie van *Equisetum fluviatile* Westhoff & den Held 1969. Here are included pure and very species-poor stands in which *E. fluviatile* is overwhelmingly the most abundant species. Occasionals include species of periodically inundated finer sediments such as *Polygonum hydropiper* and *Rorippa islandica* and, around Scottish lakes, *Littorella uniflora* has been reported as a common associate of this kind of vegetation (Spence 1964).

***Carex rostrata* sub-community.** In the richer vegetation of this sub-community the shoots of *E. fluviatile* occur intermixed with tufts of *C. rostrata*, although the former is always the more abundant. *Menyanthes trifoliata* and *Potentilla palustris* are constant as an understorey and, on occasion, may dominate. Within this mat, which sometimes occurs as a swinging semi-submerged vegetation, there may be scattered plants of *Galium palustre*, *Epilobium palustre* and *Eriophorum angustifolium. Calamagrostis stricta* and *Lysimachia thyrsiflora* have been recorded here.

Habitat
Both sub-communities can occur in similar situations to the *Caricetum rostratae*, being found in shallow to moderately deep, eutrophic to oligotrophic, standing waters in both lowland and upland lakes and pools. Here, the water can be up to more than 1 m deep with a sediment pH of 5.2–6.4. The *Equisetetum*, however, seems to be as characteristic of silty and sandy substrates as of peaty deposits and the *Equisetum* sub-community occurs in habitats where the *Caricetum rostratae* is very rarely found: on fine inorganic material around the draw-down zone of reservoirs and the inundated margins of lowland pools and very slack reaches of high-order streams.

Zonation and succession
In open-water transitions of larger lakes, especially where nutrient-poor waters occur over organic substrates, the community occurs in similar zonations to those involving the *Caricetum rostratae* and it commonly grades laterally to that community with a switch in dominance to *C. rostrata*. On more inorganic material in such situations, it may also occur alongside the *E. fluviatile* sub-community of the *Eleocharitetum palustris* (e.g. Spence 1964).

Around the margins of reservoirs and lowland pools with inorganic substrates, the *Equisetum* sub-community often forms a zone, sometimes with the *Eleocharis* sub-community of the *Eleocharitetum*, between open water and Elymo-Rumicion inundation communities or, where stock water, poached Cynosurion swards (Figure 13).

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Distribution

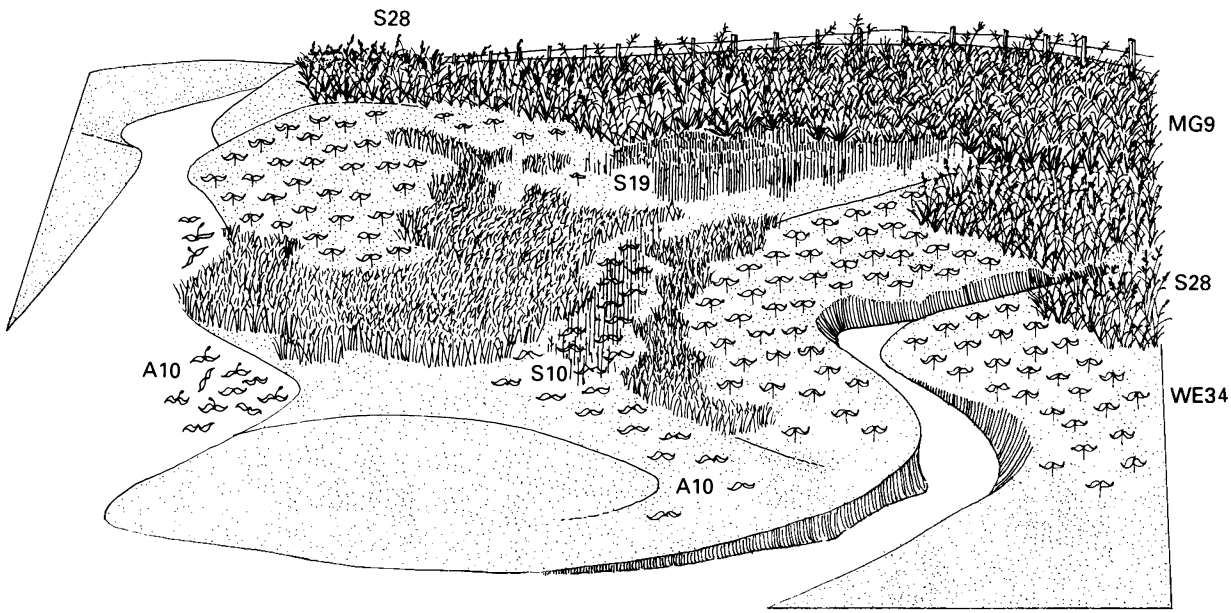
The *Equisetetum* occurs over much the same range as the *Caricetum rostratae*, primarily in the north and west where large fairly oligotrophic water bodies are common, but the *Equisetum* sub-community extends the distribution into the eastern and southern lowlands where small stands are widespread.

Affinities

A distinct *Equisetetum* has rarely been separated off from *Carex rostrata* swamp vegetation and indeed there is a complete gradation between the two communities as defined here, in both the presence and absence of the distinctive asssociates *Menyanthes trifoliata* and *Potentilla palustris*. To a lesser extent, the *Equisetetum* also grades floristically to the *Eleocharitetum palustris* and elements of the community may form an understorey to swamps with larger dominants such as *Phragmites australis* and *Scirpus lacustris* ssp. *lacustris*. Separations between these vegetation types based on abundance are not helped by the slim nature of the aerial parts of *E. fluviatile* which, even when very abundant, do not create the impression of physiognomic dominance.

Figure 13. Mosaic of aquatic and inundation communities, swamps, fen and grassland over the draw-down zone and inlet streams of a reservoir in County Durham.

A10 *Polygonum amphibium* community in aquatic and amphibious forms
S10 *Equisetetum fluviatile* swamp
S19 *Eleocharitetum palustris* swamp
S28 *Phalaridetum arundinaceae* tall-herb fen
MG9 *Holcus-Deschampsia* grassland
WE34 *Polygonum persicaria-Polygonum lapathifolium* inundation community with dense stands of *Juncus filiformis* around the margins



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Floristic table S10

	a	b	10
Equisetum fluviatile	V (8–10)	V (6–8)	V (6–10)
Polygonum hydropiper	II (2–4)		I (2–4)
Solanum dulcamara	I (4–5)		I (4–5)
Rorippa islandica	I (2–4)		I (2–4)
Polygonum amphibium	I (3)		I (3)
Alisma plantago-aquatica	I (1)		I (1)
Callitriche stagnalis	I (3–8)		I (3–8)
Lemna minor	I (3)		I (3)
Ranunculus flammula	I (3–4)		I (3–4)
Carex rostrata		V (2–5)	II (2–5)
Menyanthes trifoliata		IV (5–9)	II (5–9)
Potentilla palustris		IV (2–7)	II (2–7)
Galium palustre	I (2)	III (1–4)	II (1–4)
Epilobium palustre	I (1)	II (1–5)	I (1–5)
Eriophorum angustifolium		II (1–5)	I (1–5)
Caltha palustris		I (2–4)	I (2–4)
Angelica sylvestris		I (1)	I (1)
Calliergon cordifolium		I (3)	I (3)
Number of samples	18	7	25
Number of species/sample	4 (1–12)	11 (6–15)	6 (1–15)

a *Equisetum fluviatile* sub-community
b *Carex rostrata* sub-community
10 *Equisetetum fluviatile* (total)

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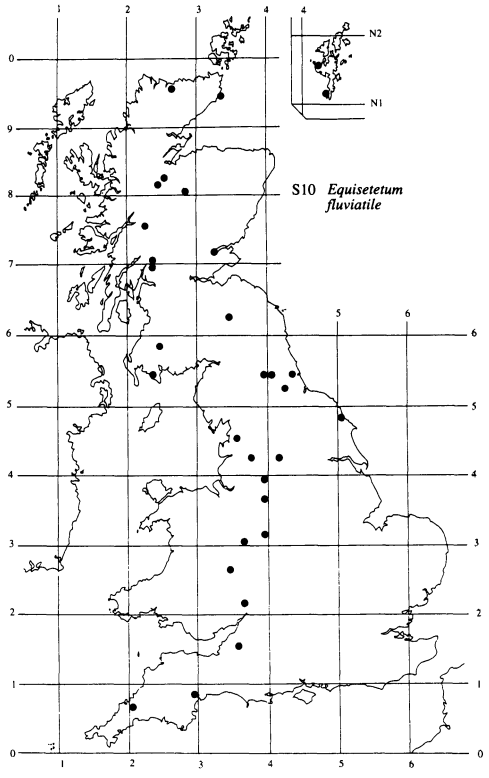

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