HABITAT DIRECTIVE POND TYPES

Habitat Directive number and name	Waterbody type	Defining characteristics
3140. Hard oligo-mesotrophic waters with benthic vegetation of *Chara* (stonewort) species 	**Stonewort ponds:** These are ponds (lakes and pools) that have an extensive bed of stoneworts (i.e. *Chara*, *Nitella* or species). Their water chemistry is usually at least moderately calcium-rich (pH 6 or greater) and low or moderately low in nutrients. Usually these ponds have very clear water. They frequently occur in limestone areas. But this is not always the case. Indeed, these ponds can occur widely across the UK (see shaded areas of map).	**1. Key features that defines the habitat:** 1. The presence of extensive beds of one or more stonewort species forming a carpet across the majority of the waterbody. 2. pH >6 The Directive guidelines mention only *Nitella* and *Chara* species as qualifying. However extensive stands of *Tolypella* are also of interest. <u>Note</u>: stoneworts sometimes develop large stands across ponds that are new or have been recently dredged. These stands generally decline within a few years, and would not normally be sufficient to qualify a pond as belonging to this habitat type.
3110. Oligotrophic waters containing very few minerals of sandy plains: *Littorelletalia uniflorae* 	**Lowland heath ponds with Shoreweed type plants** Ponds (and shallow lakes), usually with a sandy or peaty base and nutrient-poor water. The shallow edges of these waterbodies have zones dominated by 'lawns' of *Littorella* (Shoreweed), *Lobelia dortmana* (Water Lobelia) and/or *Isoetes* (Quillwort) *species* The best examples occur in the New Forest, Cheshire Plain and Outer Hebrides.	**1. Key features that defines the habitat:** *One (or more) of the following species is present as good stands (ideally with lawn-like cover that has few or no other species mixed in):* *Littorella uniflora (Shoreweed)* *Lobelia dortmanna (*Water Lobelia*)* *Isoetes lacustris* (Quillwort) *or* *Isoetes echinospora* (Spring Quillwort) NB In the south *Littorella i*s often the only species. **Other species often found**: *Juncus bulbosus* (Bulbous Rush), *Potamogeton* p*olygonifolius* (Bog Pondweed). Sometimes also: *Pilularia globulifera* (Pillwort), *Myriophyllum alterniflorum (*Alternate Water-milfoil), *Luronium natans* (Floating Water-plantain).
3130. Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*  Note: this JNCC map may not be fully accurate, since it pre-dates detailed EU guidelines for the habitat.	**Ponds (and lakes) with shallows and banks that have either (i) shoreweed-type plants or (ii) specialist annual plants like Yellow Centaury** The ponds that make up this Annex 1 type have either nutrient-poor or moderately nutrient poor water. They support one or both of the following two types of vegetation around their edge: (i) short lawn-like vegetation types including *littorella* (Shoreweed) type species. This habitat is similar to habitat 3110 above, and the two overlap. (ii) Annual plants that are specialists of the drawdown zone of low nutrient, (often grazed), ponds.	**Community type i. Key features:** Presence of *Littorella uniflora* (Shoreweed). Plus some other **characteristic** species of this habitat type: *Pilularia globulifera* (Pillwort), *Juncus bulbosus* (Bulbous Rush), *Potamogeton* p*olygonifolius* (Bog Pondweed), *Luronium natans* (Floating Water-plantain), *Eleocharis acicularis* (Needle Spike-rush), *Sparganium minimum* (Least Bur-reed). **Community type ii. Key features:** Presence of a number of species **characterisitc** of this habitat type: *Elatine hexandra* (Six-stamened Waterwort), *Elatine hydropiper* (Eight-stamened Waterwort), *Cyperus fuscus*, (Brown Galingale), *Limosella aquatica* (Mudwort), *Cicendia filiformis*. (Yellow Centaury) Also more **widespread** species likely to be present: *Isolepis* setacea (Bristle Club-rush), *Juncus bufonius* (Toad Rush).

3150. Natural eutrophic lakes[1] with *Magnopotamion* or Hydrocharition-type vegetation  [1]Note this habitat type includes ponds, although this is not explicit in the title.	**Ponds (and lakes) with rich floating-leaved plant communities often including Frog-bit, or deep ponds with a number of large-leaved submerged pondweed species.** Includes naturally nutrient-rich ponds with mostly grey to blue-green, more or less turbid, waters (pH usually > 7), with either: (i) a rich community of free-floating plants *Hydrocharition,* or, (ii) in deep, open waters, large-leaved pondweed species associations.	**Community type i. Key features:** (i) Presence of a number of free-floating species **characterisitc** of this habitat type. Usually including *Hydrocharis morsus-ranae (Frogbit),* or *Stratiotes aloides* (Water Soldier) (in East Anglia where it is native). Plus species such as *Lemna* (duckweed) spp., *Spirodela* polyrhyza (Greater Duckweed), *Wolffia* ahriza, (Rootless Duckweed), *Utricularia australis* (Bladderwort), *U. vulgaris,* (Greater Bladderwort), or floating liverworts (*Riccia*, *Ricciocarpus*). Non-native aquatic ferns (*Azolla spp*) may also be present. **Community type ii. Key features:** ii) Presence of a number of large-leaved pondweed speciess: *Potamogeton lucens* (Shining Pondweed), *P. praelongus* (Long-stalked Pondweed), *P. perfoliatus* (Perfoliate Pondweed) or *P. zizii* (a hybrid species).
3160. Natural dystrophic lakes and ponds 	**Natural[1] peaty ponds (and lakes) with acid water species such as sphagnum.** These are ponds with brown tinted water, generally on peaty soils in bogs or heathlands. They tend to be acid, with a low pH (3 - 6). The plant communities often have rather few species. [1]Note The Habitat Directive defines 'natural' habitats as either entirely natural or semi-natural. For example in the UK Woolmer pond, which originated as peat cuts, is designated as an SAC for this habitat type.	**1. Key plants that defines the habitat:** Typically *Sphagnum (bog moss)* species and/or *Utricularia* spp (bladderwort species) **Other species often found**: Plus a number of other plants *characteristic* of this habitat type *Rhynchospora alba* (White Beak-sedge), *R. fusca* (Brown Beak-sedge) or *Sparganium natans* (Least Bur-reed). Often also *associated* with *Juncus bulbous* (Bulbous Rush), *Nymphaea alba* (White Water Lily), *Potamogeton polygonifolius* (Bog Pondweed), *Menyanthes trifoliata* (Bogbean).