






Guide to Annex 1 Habitats Directive pond types

The table below provides a guide to the main Annex 1 Habitats Directive habitat types that are likely to be relevant to ponds found in England and Wales. The information is drawn from the EU Habitats Directive interpretation manual (European Commission DG 2013).

https://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/Int_Manual_EU28.pdf

Habitat Directive number and name	Waterbody type	Defining characteristics
<p>3110. Oligotrophic waters containing very few minerals of sandy plains: <i>Littorelletalia uniflorae</i></p> 	<p>Lowland heath ponds with Shoreweed type plants</p> <p>Ponds and shallow lakes, usually with a sandy or peaty base and nutrient-poor water.</p> <p>The shallow edges of these waterbodies have zones dominated by 'lawns' of <i>Littorella</i> (Shoreweed), <i>Lobelia dortmana</i> (Water Lobelia) and/or <i>Isoetes</i> (Quillwort) species</p> <p>The best examples occur in the New Forest, Cheshire Plain and Outer Hebrides.</p>	<p>Key features that define the habitat:</p> <ol style="list-style-type: none"> 1. Sandy or peaty base 2. The presence of one (or more) of the following species as extensive stands in shallow areas (ideally with lawn-like cover that has few or no other species mixed in): <i>Littorella uniflora</i> (Shoreweed), <i>Lobelia dortmanna</i> (Water Lobelia), <i>Isoetes lacustris</i> (Quillwort) or <i>Isoetes echinospora</i> (Spring Quillwort). <p>NB In the south <i>Littorella</i> is often the only species.</p> <p>Other species often associated:</p> <p><i>Juncus bulbosus</i> (Bulbous Rush), <i>Potamogeton polygonifolius</i> (Bog Pondweed).</p> <p>Sometimes also:</p> <p><i>Pilularia globulifera</i> (Pillwort), <i>Myriophyllum alterniflorum</i> (Alternate Water-milfoil), <i>Luronium natans</i> (Floating Water-plantain).</p>
<p>3130. Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/ or of the <i>Isoëto-Nanojuncetea</i></p> <p><u>Note:</u> this JNCC map may not be fully accurate, since it pre-dates detailed EU guidelines for the habitat.</p> 	<p>Ponds (and lakes) with shallows and banks that have either (i) shoreweed-type plants or (ii) specialist annual plants like Yellow Centaury</p> <p>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:</p> <p>(i) short lawn-like vegetation types including <i>littorella</i> (Shoreweed) type species.</p> <p>This habitat is similar to habitat 3110 above, and the two overlap.</p> <p>(ii) Annual plants that are specialists of the drawdown zone of low nutrient, (often grazed), ponds.</p>	<p>Key features that define the habitat:</p> <ol style="list-style-type: none"> 1. The presence of either one (or both) of two types of plant community types: <p>(a) <i>Littorella uniflora</i> (Shoreweed). Plus other characteristic species of this habitat type:</p> <p><i>Pilularia globulifera</i> (Pillwort), <i>Juncus bulbosus</i> (Bulbous Rush), <i>Potamogeton polygonifolius</i> (Bog Pondweed), <i>Luronium natans</i> (Floating Water-plantain), <i>Eleocharis acicularis</i> (Needle Spike-rush), <i>Sparganium minimum</i> (Least Bur-reed).</p> <p>(b) Annual species characteristic of this habitat type: <i>Elatine hexandra</i> (Six-stamened Waterwort), <i>Elatine hydropiper</i> (Eight-stamened Waterwort), <i>Cyperus fuscus</i> (Brown Galingale), <i>Limosella aquatica</i> (Mudwort), <i>Cicendia filiformis</i> (Yellow Centaury).</p> <p>Also more widespread species likely to be present: <i>Isolepis setacea</i> (Bristle Club-rush), <i>Juncus bufonius</i> (Toad Rush).</p>

Habitat Directive number and name	Waterbody type	Defining characteristics
<p>3140. Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> (stonewort) species</p> 	<p>Stonewort ponds: These are ponds (lakes and pools) that have an extensive bed of stoneworts (i.e. <i>Chara</i>, <i>Nitella</i>). Their water chemistry is usually at least moderately calcium-rich (pH6 or greater) and low or moderately low in nutrients.</p> <p>Usually these ponds have very clear water.</p> <p>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).</p>	<p>Key features that define the habitat:</p> <ol style="list-style-type: none"> 1. The presence of extensive beds of one or more stonewort species forming a carpet across the majority of the waterbody. 2. Pond more than five years old <p>The Directive guidelines mention only <i>Nitella</i> and <i>Chara</i> species as qualifying. However extensive stands of <i>Tolypella</i> are also of interest.</p> <p><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.</p>
<p>3150. Natural eutrophic lakes¹ with <i>Magnopotamion</i> or Hydrocharition-type vegetation</p>  <p>¹ <u>Note</u> this habitat type includes ponds, although this is not explicit in the title.</p>	<p>Lakes and ponds with (i) rich floating-leaved plant communities often including Frog-bit, or (ii) deep ponds with a number of large-leaved submerged pondweed species.</p> <p>Includes naturally nutrient-rich ponds with mostly grey to blue-green, more or less turbid, waters (pH usually > 7), with either:</p> <p>(i) a rich community of free-floating plants <i>Hydrocharition</i>, or, in deep, open waters, large-leaved pondweed species associations.</p>	<p>Key features that define the habitat:</p> <ol style="list-style-type: none"> 1. The presence of either one of two types of plant community types: <p>(a) A number of free-floating species characteristic of this habitat type including: <i>Hydrocharis morsus-ranae</i> (Frogbit), or <i>Stratiotes aloides</i> (Water Soldier) (in East Anglia where it is native). Plus native species of <i>Lemna</i> (duckweed) spp., <i>Spirodela polyrrhyza</i> (Greater Duckweed), <i>Wolffia arriza</i> (Rootless Duckweed), <i>Utricularia australis</i> (Bladderwort), <i>U. vulgaris</i>, (Greater Bladderwort), and/or floating liverworts (<i>Riccia</i>, <i>Ricciocarpus</i>).</p> <p>(b) Presence of a number of large-leaved pondweed species: e.g. <i>Potamogeton lucens</i> (Shining Pondweed), <i>P. praelongus</i> (Long-stalked Pondweed), <i>P. perfoliatus</i> (Perfoliate Pondweed) or <i>P. zizii</i> (a hybrid species).</p>
<p>3160. Natural dystrophic lakes and ponds</p> 	<p>Natural¹ peaty lakes and ponds with acid water species such as sphagnum.</p> <p>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.</p> <p>¹ <u>Note</u> The Habitat Directive defines 'natural' habitats as either entirely natural or semi-natural. For example in the UK Woolmer Pond in Hampshire, which originated as peat cuts, is designated as an SAC for this habitat type.</p>	<p>Key features that define the habitat:</p> <ol style="list-style-type: none"> 1. Peaty soils, water usually brown tinted. 2. The presence of <i>Sphagnum</i> (bog moss) species and/or acid water <i>Utricularia</i> spp (bladderwort species) e.g. <i>Utricularia minor</i> <p>Other species often found:</p> <p><i>Rhynchospora alba</i> (White Beak-sedge), <i>R. fusca</i> (Brown Beak-sedge) or <i>Sparganium natans</i> (Least Bur-reed).</p> <p>Often also associated with <i>Juncus bulbous</i> (Bulbous Rush), <i>Nymphaea alba</i> (White Water Lily), <i>Potamogeton polygonifolius</i> (Bog Pondweed), <i>Menyanthes trifoliata</i> (Bogbean).</p>

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3170. Mediterranean temporary ponds Distribution: known examples in England are currently limited to the Lizard in Cornwall, although pools with some elements of this habitat are found in the New Forest.	Very shallow temporary ponds (a few centimeters deep) which predominantly hold water in winter or spring, and support a flora dominated by species with a southern European distribution. These pools are often small and associated with trampled and grazed areas in pinch-points around gateways and trackway pools.	<u>Key features that define the habitat:</u> 1. Very shallow temporary pools which are only wet in winter, spring or after heavy rain. 2. An association of annual mud plant species with a southern European distribution, many of which are very rare in England. On the Lizard these pools are associated with taxa such as: <i>Cicendia filiformis</i> . (Yellow Centaury), <i>Juncus pygmaeus</i> (Pygmy Rush), <i>Juncus capitatus</i> (Dwarf Rush) and <i>Mentha pulegium</i> (Pennyroyal). Other rare species listed as associated with this habitat type are: <i>Cyprus fuscus</i> (Brown Galingale), <i>Damasonium alisma</i> (Starfruit) and <i>Illecebrum verticillatum</i> (Coral Necklace). More common and widespread associates are: <i>Gnaphalium uliginosum</i> (Marsh Cudweed) and <i>Juncus bufonius</i> (Toad Rush).
2190. Humid dune slacks Distribution: Coastal areas with extensive dune systems.	Dune slack pools that show a marked annual variation in water levels. They can be permanent or seasonal. This is a freshwater habitat with low salinity and is often extremely species rich.	<u>Key features that define the habitat:</u> 1. Dune slack pool 2. The presence of either one of two types of habitat and plant community types: (a) Permanent pools with aquatic plant species e.g. <i>Hipurus vulgaris</i> (Marestail), <i>Hottonia palustris</i> (Water violet), <i>Stuckenia pectinata</i> (Fennel Pondweed), <i>Elodea canadensis</i> (Canadian Pondweed). (b) Seasonal pools (or extensive shallow edges of permanent pools) with pioneer species associations e.g. <i>Baldellia ranunculoides</i> (Lesser Water-plantain), <i>Hydrocotyle vulgaris</i> (Marsh Pennywort), <i>Juncus bufonius</i> (Toad Rush). <i>Salix repens</i> (Creeping Willow) is commonly present – though this species should not be dominant. Other common species: <i>Holcus lanatus</i> (Yorkshire-Fog), <i>Potentilla anserina</i> (Silverweed), <i>Carex nigra</i> (Common sedge) and the bryophytes <i>Campylium stellatum</i> and <i>Calliergon cuspidatum</i> .

*Maps derived from JNCC website, accessed 2016

Freshwater Habitats Trust

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References

European Commission DG. 2013. Interpretation manual of European Union habitats. Natura 2000.

https://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/Int_Manual_EU28.pdf

Habitats Directive. 1992. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. *Official Journal of the European Union*, 206.

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