

10.8 FRESHWATER HABITATS – RIVERS AND STREAMS

Derbyshire supports a diverse range of flowing water ranging from large rivers such as the Trent, Erewash, Dove, Derwent and Wye to small tributaries at the upper margins of river catchments. The large lowland rivers often have extensive floodplains and associated features such as oxbows. Fast flowing smaller upland watercourses occur over hard siliceous rocks and the limestone areas, though better drained, support a number of limestone streams and rivers that can support a diverse flora and fauna.

Freshwater Habitats - Rivers and Streams Selection Guidelines

Sites that meet one or more of the following guidelines will be eligible for designation as a Wildlife Site.

Ri1. A stretch of river or similar water course that supports 2 or more of the following a) – d),

- a) regularly supports a high and/or near natural water quality as determined by Biological General Quality Assessment methodology used by the Environment Agency.**
 - b) A suite of 3 or more natural river habitat features that should normally occur in the stretch of watercourse being evaluated from those listed below:**
 - **cascades**
 - **islands**
 - **oxbows**
 - **pools**
 - **rapids**
 - **riffle and run systems**
 - **sand, mud, shingle or gravel banks**
 - **unmodified bank profiles**
 - **unvegetated point bars**
 - **vegetated point bars**
 - c) A score of 12 or more from the species listed in Table 4a - c**
 - d) Significant water-crowfoot beds**
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UKBAP Habitat Action Plan – Chalk Rivers

LBAP Habitat Action Plans – Rivers and Streams(LD) River Corridor Habitats(PD)

Application

This guideline can be applied to any flowing watercourse and should include the full length of the watercourse for which the features (a – d) are associated.

Justification

Rivers and streams are an important part of our critical natural capital, but information and knowledge of these habitats in terms of their nature conservation value in Derbyshire requires further work. However, for rivers and streams where detailed information is available designation as a Wildlife Site can be considered.

Ri2 Any stretch of river that is identified as a high quality representation of its type as specified within the Vegetation Communities of British Rivers classification system (Holmes, Boon and Rowell, 1999).

UKBAP Habitat Action Plan – Chalk Rivers

LBAP Habitat Action Plans – Rivers and Streams(LD) River Corridor Habitats(PD)

Application

This should be applied to stretches of river that are usually 1km or more in length as this is the standard length used by the classification system. Key river types and sub-communities within Derbyshire are eligible. Liaison with Environment Agency ecologists and biologists will be necessary whilst assessing riverine sites using this guideline.

Justification

Rivers that are observed to be representative of their national type are valued as true examples of the expected river quality for the respective environmental conditions local to the river corridor such as geology and geomorphology etc. They reflect primary criteria including typicalness, diversity and naturalness. Good examples of high quality rivers are scarce within England, as many rivers no longer present their natural state due to various man-induced physical or chemical modifications. Unmodified near natural watercourses support more characteristic plant and animal species than those watercourses that have been physically modified and have a degraded quality of water.

Ri3 Any stream that originates from calcareous substrata in the White Peak or Southern Magnesian Limestone NAs that supports 4 or more species characteristic of calcareous stream flora shown in Table 4 and/or characteristic invertebrate fauna.

UKBAP Habitat Action Plan – Chalk Rivers

LBAP Habitat Action Plans – Rivers and Streams(LD) River Corridor Habitats(PD)

Application

This guideline can be applied to any watercourse associated with limestone geology.

Justification

Calcareous streams are restricted to the Carboniferous Limestone of the Peak District and the Southern Magnesian Limestone in the north-east. This guideline seeks to identify those calcareous streams with a characteristic flora and/or fauna indicating a good quality watercourse. Unmodified near-natural watercourses, support a greater diversity of plant

and animal species than watercourses that have been physically modified and have a degraded quality of water. Natural watercourses are an important part of our Critical Natural Capital.

Table 4a Flowing Water vascular plants

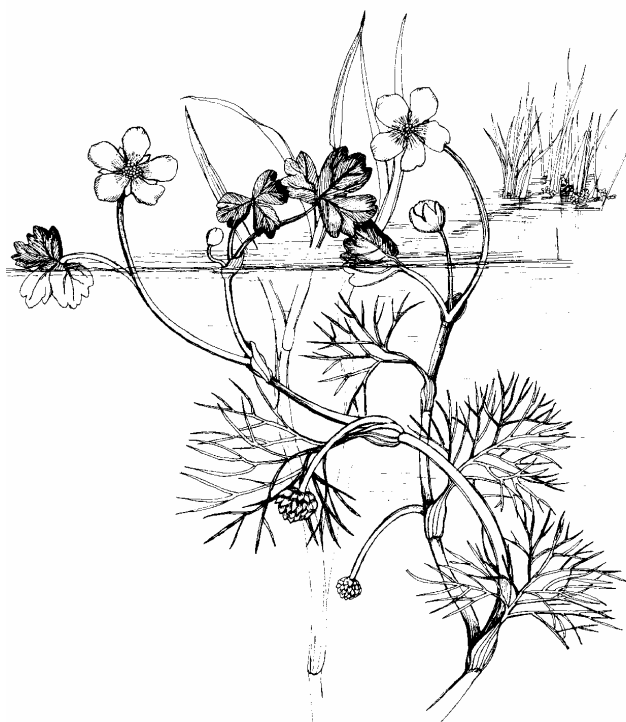
Scoring

All species score 1 with the exception of those species in **bold** (Derbyshire Red Data Book Plant Species; provisional March 2002) which score 2.

- Species marked with an asterisk are characteristic of calcareous streams.
- Species with common names in italics have no post 1987 records in the county.

Scientific Name	Common Name
<i>Alisma lanceolatum</i>	Narrow-leaved water-plantain
<i>Alisma plantago-aquatica</i>	Water plantain
<i>Apium nodiflorum</i>	Fools watercress
<i>Berula erecta</i>	Lesser Water-parsnip*
<i>Butomus umbellatus</i>	Flowering rush
<i>Callitriche spp.</i>	Water-starworts*
<i>Carex acuta</i>	Slender tufted sedge
<i>Carex acutiformis</i>	Lesser pond sedge
<i>Carex paniculata</i>	Greater tussock sedge*
<i>Carex riparia</i>	Great pond sedge
<i>Ceratophyllum demersum</i>	Rigid Hornwort
<i>Chara sp.</i>	Stoneworts
<i>Eupatoria cannabinum</i>	Hemp-agrimony
<i>Glyceria spp.</i>	Sweet-grasses
<i>Groenlandia densa</i>	<i>Opposite-leaved Pondweed*</i>
<i>Hippuris vulgaris</i>	Marestail*
<i>Hottonia palustris</i>	Water violet
<i>Iris pseudacorus</i>	Yellow Flag
<i>Lythrum salicaria</i>	Purple Loosestrife
<i>Mentha aquatica</i>	Water Mint
<i>Menyanthes trifoliata</i>	Bog Bean*
<i>Myosotis laxa</i>	Tufted Forget-me-not
<i>Myosotis scorpioides</i>	Water Forget-me-not
<i>Myosotis secunda</i>	Creeping Forget-me-not
<i>Myriophyllum alterniflorum</i>	<i>Alternate Water-milfoil</i>
<i>Myriophyllum spicatum</i>	Spiked Water milfoil
<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil
<i>Nuphar lutea</i>	Yellow Water-lily
<i>Nymphaea alba</i>	White water lily
<i>Oenanthe aquatica</i>	Fine-leaved Water-dropwort
<i>Oenanthe crocata</i>	Hemlock Water-dropwort
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort

<i>Oenanthe silaifolia</i>	Narrow-leaved Water-dropwort
<i>Phragmites australis</i>	Common Reed
<i>Potamogeton spp.</i>	Pondweeds
<i>Ranunculus circinatus</i>	Fan-leaved Water-crowfoot
<i>Ranunculus fluitans</i>	River Water-crowfoot*
<i>Ranunculus penicillatus</i>	Stream Water-crowfoot*
<i>Ranunculus spp.</i>	Other water-crowfoot species*
<i>Rorippa nasturtium-aquaticum</i>	Water-cress*
<i>Rumex hydrolapathum</i>	Water dock
<i>Sagittaria sagittifolia</i>	Arrowhead
<i>Schoenoplectus lacustris</i>	Common Club-rush
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush
<i>Sparganium emersum</i>	Unbranched bur-reed
<i>Sparganium erectum</i>	Branched bur-reed
<i>Spirodela polyrhiza</i>	Greater Duckweed
<i>Veronica anagallis-aquatica</i>	Blue Water Speedwell*



Water Crowfoot.

FRESHWATER HABITATS – STANDING OPEN WATER

Standing open water includes lakes, ponds, flashes, ditches, drains, canals and reservoirs. Some of these are natural features of the landscape whilst others are created by human activity. Most standing water habitats support areas of open water with associated submerged, floating and marginal plant communities where the water table is permanently above the sediment surface. However temporary water bodies can also be very important for wildlife and include seasonal ponds and ditches.

Standing water sites can be broadly categorised into eutrophic, mesotrophic and oligotrophic water bodies based on the nutrient status of the water. Eutrophic water bodies are relatively common throughout the UK and can be found throughout much of Derbyshire. They are characterised by high levels of plant nutrients. Phosphorus levels are typically greater than 0.035mg/l and inorganic nitrogen concentrations are greater than 0.5mg/l. Concentrations can be far higher than this and algal blooms can occur in some sites during summer. It is important to distinguish between water bodies that are naturally eutrophic and those that have been artificially enriched through agricultural run-off and sewage effluents.

Mesotrophic water-bodies are relatively infrequent in the UK and confined to the margins of the upland areas in the north and west of the country. In Derbyshire they are most likely to be encountered within the Peak District and upland fringes. They are characterised by a moderate level of nutrients that can support a diverse macrophyte flora but with relatively clear water and limited growth of planktonic or filamentous algae. Macrophyte communities will include at least some vascular plants or charophytes intolerant of nutrient-enriched conditions particularly nitrogen and phosphorus. Typically mesotrophic waters have a narrow range of nutrient levels inorganic nitrogen concentrations of 0.3-0.65 mg/l and total phosphorus concentrations of 0.01 – 0.035mg/l. As a consequence of eutrophication this habitat is becoming increasingly rare. Mesotrophic waters can support the highest diversity of submerged water plants of any waterbody type. They also often support nationally threatened, scarce or declining plant species.

Oligotrophic water bodies are primarily found in upland areas in association with hard, nutrient poor rocks where waters tend to be mineral poor. Productivity is often low due to low concentrations of dissolved nutrients, in particular nitrogen and phosphorus. Oligotrophic waters are usually clear, there is little accumulation of organic matter and the substrate is often comprised of hard acidic rocks and mineral material. Marginal and submerged vegetation is often characterised by a suite of species restricted and adapted to acidic waters.

There is little data on the occurrence of oligotrophic water bodies in Derbyshire. Conditions are most favourable in the upland areas of Dark Peak and South-west Peak.

Lastly dystrophic waterbodies occur where the water is acid, brown and peaty and the dead vegetation does not decompose but settles at the bottom to form peat. This type of waterbody is likely to be associated with upland peat bogs and moorlands.

Types of standing water in Derbyshire

Natural lakes. Lakes formed within a natural basin. Many such lakes will have been modified or altered by human activities e.g. dams.

Oxbow ponds – Oxbow ponds develop after a river cuts a new path leaving behind the former meander which over time becomes isolated. Several oxbows are present on the River Trent.

Peatland pools – Usually small and temporary forming as a result of the topography of the mire or fen. They lie mainly within the upland fringes.

Field ponds – Constructed on farms for watering stock and often associated with the Enclosure Acts. In 1989 (DWT Pond survey) a survey revealed that 77% of the ponds present in the county in 1899 had disappeared. This decline is thought to have continued since 1989.

Dew ponds – Dew ponds occur on the carboniferous limestone of the White Peak and were originally intended as a method of watering stock in areas with little above ground drainage. They were designed so as to create a basin to capture rainfall and surface runoff. Today many are no longer used for stock and have attracted species like great crested newt or been colonised by a variety of wetland species.

Reservoirs – Constructed for irrigation and water storage. Often of significant ornithological interest although some support a specialised flora associated with drawdown zones. Examples include Carsington Reservoir and Foremark Reservoir.

Borrowpits – Associated with river corridors they have been created through flood bank construction and also excavated for materials used in railway and road construction. Examples include Forbes Hole LNR in Long Eaton, Erewash.

Mineral extraction sites – clay pits, gravel pits, sandpits, brickpits and limestone quarries. These sites are very variable ranging from large deep gravel pits and flooded quarries to relatively small wetlands in brickpits and limestone quarries. These sites become more natural in time through natural colonisation of plants and animals. Many sites are relatively isolated and free from human impacts such as pollution and recreational disturbance. This can be very beneficial for plants, birds and mammals. Examples include Drakelow Wildfowl Reserve, Witches Oak Water and Steetley Quarry.

Flashes – standing water bodies created through subsidence of land over former coal workings.

Mill lodges and ponds – Originally constructed to store water to power mills. Nature conservation interest can be very variable. Some sites are associated with rare aquatic flora and fauna. Examples exist in New Mills, Matlock and Pleasley.

Ornamental lakes – Often associated with large estates or a parkland landscape. These sites can be of significant biological interest. They are usually eutrophic and can support submerged, floating and marginal wetland vegetation, diverse invertebrate assemblages and wetland birds. Some sites are also important for water voles. Examples include lakes at Hardwick Hall, Allestree Park and Markeaton Park.

Fish ponds – Historic fishponds may support a range of features such as rich marginal vegetation, areas of relic fen, swamp or secondary wet woodland. They are often present as a series of interconnecting ponds.

Canals – The canals in Derbyshire include both disused canals such as Cromford Canal those still in use such as High Peak Canal and those under restoration such as Chesterfield Canal. Disused canals can be of great ecological interest due to the lack of disturbance.

Ditches – Artificially created and maintained drainage channels usually associated with local agricultural land drainage. Depending upon their location they may be permanently watered or may become dry at different times of the year.

Balancing ponds and lagoons – These can develop interest for both fauna and flora.

Garden ponds – Garden ponds can support a range of flora and fauna and in some areas make a significant contribution to local wildlife. However, garden ponds are excluded from these guidelines.

General application of Standing Water Guidelines

The guidelines for standing waters should be applied to areas of permanent or seasonal open water and associated swamp habitats of natural and artificial origin. Subsidiary habitats such as wet woodland and fen that may be associated with standing water sites may also be included within the Wildlife Site if they warrant designation in their own right. If they do not warrant designation they may also be included within the Wildlife Site if they are hydrologically contiguous with the standing water or provide important habitat for part of the life cycle of species of interest that are associated with the Wildlife Site. There is no minimum size threshold for selection; however linear sites such as canals should be assessed in sections between readily identifiable features such as bridges or locks.

Standing Open Water Selection Guidelines

Areas of standing water with any integral marginal vegetation that meet any one or more of the following guidelines will be eligible for selection as a Wildlife Site.

Stw 1 A nutrient rich standing water site that scores 10 or more from the species listed in Table 4b with at least one species recorded from two of the following habitats:

- submerged
 - floating
 - and swamp/marginal.
-

**UKBAP Habitat Action Plan – Eutrophic Standing Water,
LBAP Habitat Action Plans – Standing Open Water and Canals (LD), Canals (PD),
Reservoirs and Lagoons (PD), Ponds (PD)**

Application

The majority of the species recorded from Table 4b should be well distributed throughout the site. If they are rare or restricted to a few areas the site should not be designated.

Justification

The species listed in Table 4b provide an indication of a diverse and good quality standing water habitat, with a range of different vegetation communities from open water through to marginal swamp vegetation that is of nature conservation value. The species present should be relatively well distributed within the site.

Stw 2 A nutrient poor standing water that scores 5 or more from the species listed in Table 4c or 10 from Table 4b and 4c.

**UKBAP Habitat Action Plan – Mesotrophic Standing Water
LBAP Habitat Action Plans – Standing Open Water and Canals (LD), Canals (PD),
Reservoirs and Lagoons (PD), Ponds (PD)**

Application

The majority of the species recorded from Table 4c should be well distributed throughout the site. If they are rare or restricted to a few areas the site should not be designated on the basis of this guideline.

Justification

The species listed in Table 4c are indicative of good examples of nutrient poor (mesotrophic, oligotrophic through to dystrophic) water bodies with a variety of habitat)

Stw 3 A standing water body that supports one of the following rare aquatic habitats or communities in Derbyshire as follows:

- a) mesotrophic standing water
 - b) 5 or more submerged aquatic plants
 - c) stable charophyte communities
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UKBAP Habitat Action Plans – Eutrophic Standing Water, Mesotrophic Standing Water

LBAP Habitat Action Plans – Standing Open Water and Canals (LD), Canals (PD), Reservoirs and Lagoons (PD), Ponds (PD)

Application

This guideline is to be applied to those key habitats that are known to be rare and are valued within the county.

Justification

The above are rare habitats or vegetation community types in Derbyshire and are worthy of protection.

Stw 4 A standing water site that supports seasonal drawdown zones and open vegetation habitat characterised by:

- a) the presence of at least 5 species listed in Table 4d
- b) OR one of the following NVC communities:

OV29 Alopecurus geniculatus – Rorippa palustris

OV30 Bidens tripartita – Persicaria amphibia

OV31 Rorippa palustris – Gnaphalium uliginosum

OV35 Lythrum portula – Ranunculus flammula

UKBAP Habitat Action Plans – Eutrophic Standing Water, Mesotrophic Standing Water, Coastal and Floodplain Grazing Marsh, Fens

LBAP Habitat Action Plans – Standing Open Water and Canals (LD), Floodplain Grazing Marsh (LD) Lowland Fen Meadows (LD), River Corridor Habitats (PD) Canals (PD), Reservoirs and Lagoons (PD), Ponds (PD)

Application

This guideline applies to sites that hold standing water due to prolonged or seasonal flooding or standing water sites where the water table levels fluctuate. These may be floodplain grasslands or fens or reservoirs. These habitats can occur in quite localised patches and consideration should be given to size and transitions to other habitats. Special

consideration should also be given to sites supporting one or more of the specialised plant species highlighted in Table 4d.

Justification

Open vegetation communities of the drawdown zone and marginal wetland habitats are typically uncommon in Derbyshire and can support specialised flora and fauna. They often form important transitional habitats contributing to the overall biodiversity of an area.

Table 4b Indicative species list for nutrient rich standing waters (eutrophic through to mesotrophic)	
Scoring	
All species score 1 with the exception of those species in bold (Derbyshire Red Data Book Plant Species; provisional March 2002) which score 2.	
<ul style="list-style-type: none"> • Species marked with an asterisk are characteristic of mesotrophic conditions. • Species with common names in italics have no post 1987 records in the county. 	
Scientific Name	Common Name
<i>Alisma lanceolatum</i>	Narrow-leaved water-plantain
<i>Alisma plantago-aquatica</i>	Water plantain
<i>Apium inundatum</i>	Lesser marshwort*
<i>Apium nodiflorum</i>	Fools watercress
<i>Berula erecta</i>	Lesser Water-parsnip
<i>Butomus umbellatus</i>	Flowering rush
<i>Callitriche hermaphroditica</i>	Autumnal water-starwort
<i>Callitriche hamulata</i>	Intermediate Water-starwort
<i>Callitriche obtusangula</i>	Blue-fruited Water-starwort
<i>Callitriche platycarpa</i>	Various-leaved Water-starwort
<i>Callitriche stagnalis</i>	Common Water-starwort
<i>Callitriche truncata</i>	Short-leaved Water-starwort
<i>Carex acuta</i>	Slender tufted sedge
<i>Carex acutiformis</i>	Lesser pond sedge
<i>Carex disticha</i>	Brown Sedge
<i>Carex paniculata</i>	Greater tussock sedge
<i>Carex pseudocyperus</i>	Cyperus sedge
<i>Carex riparia</i>	Great pond sedge
<i>Carex rostrata</i>	Bottle Sedge
<i>Carex vesicaria</i>	Bladder Sedge
<i>Catabrosa aquatica</i>	Whorl-grass
<i>Ceratophyllum demersum</i>	Rigid Hornwort
<i>Chara sp.</i>	Stoneworts*
<i>Eleocharis acicularis</i>	Needle spike rush
<i>Eleocharis palustris</i>	Common spike rush

<i>Equisetum fluviatile</i>	Water Horsetail
<i>Glyceria declinata</i>	Small Sweet-grass
<i>Glyceria fluitans</i>	Floating sweet grass
<i>Glyceria notata</i>	Plicate sweet grass
<i>Groenlandia densa</i>	<i>Opposite-leaved Pondweed</i>
<i>Hippuris vulgaris</i>	Marestail
<i>Hottonia palustris</i>	Water violet*
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Iris pseudacorus</i>	Yellow Flag
<i>Lemna gibba</i>	Fat duckweed
<i>Lemna trisulca</i>	Ivy-leaved duckweed
<i>Littorella uniflora</i>	Shoreweed*
<i>Luronium natans</i>	<i>Floating Water-plantain</i>
<i>Lythrum salicaria</i>	Purple Loosestrife
<i>Mentha aquatica</i>	Water Mint
<i>Menyanthes trifoliata</i>	Bog Bean*
<i>Myosotis laxa</i>	Tufted Forget-me-not
<i>Myosotis scorpioides</i>	Water Forget-me-not
<i>Myosotis secunda</i>	Creeping Forget-me-not
<i>Myriophyllum alterniflorum</i>	<i>Alternate Water-milfoil</i>
<i>Myriophyllum spicatum</i>	Spiked Water milfoil
<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil*
<i>Nitella spp.</i>	Any stonewort
<i>Nuphar lutea</i>	Yellow Water-lily
<i>Nymphaea alba</i>	White water lily
<i>Oenanthe aquatica</i>	Fine-leaved Water-dropwort
<i>Oenanthe crocata</i>	Hemlock Water-dropwort
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort
<i>Oenanthe silaifolia</i>	Narrow-leaved Water-dropwort
<i>Persicaria amphibium</i>	Amphibious bistort
<i>Phalaris arundinacea</i>	Reed sweet grass
<i>Phragmites australis</i>	Common Reed
<i>Potamogeton alpinus</i>	Red Pondweed*
<i>Potamogeton bertoldii</i>	Small Pondweed
<i>Potamogeton compressus</i>	Grass-wrack Pondweed
<i>Potamogeton crispus</i>	Curled Pondweed
<i>Potamogeton friesii</i>	Flat-stalked Pondweed
<i>Potamogeton lucens</i>	Shining Pondweed
<i>Potamogeton obtusifolius</i>	Blunt-leaved Pondweed*
<i>Potamogeton natans</i>	Broad-leaved Pondweed
<i>Potamogeton pectinatus</i>	Fennel Pondweed
<i>Potamogeton perfoliatus</i>	Perfoliate Pondweed
<i>Potamogeton polygonifolius</i>	Bog Pondweed
<i>Potamogeton praelongus</i>	Long-stalked Pondweed

<i>Potamogeton pusillus</i>	Lesser Pondweed
<i>Ranunculus aquatilis</i>	Common Water-crowfoot
<i>Ranunculus circinatus</i>	Fan-leaved Water-crowfoot
<i>Ranunculus fluitans</i>	River Water-crowfoot
<i>Ranunculus hederaceus</i>	Ivy-leaved Crowfoot
<i>Ranunculus omiophyllus</i>	Round-leaved Crowfoot
<i>Ranunculus peltatus</i>	Pond Water-crowfoot
<i>Ranunculus penicillatus</i>	Stream Water-crowfoot
<i>Ranunculus trichophyllus</i>	Thread-leaved Water-crowfoot
<i>Rorippa nasturtium-aquaticum</i>	Water-cress
<i>Rumex hydrolapathum</i>	Water dock
<i>Rumex maritimus</i>	Golden Dock
<i>Sagittaria sagittifolia</i>	Arrowhead
<i>Schoenoplectus lacustris</i>	Common Club-rush
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush
<i>Scirpus sylvaticus</i>	Wood Club-rush
<i>Sparganium emersum</i>	Unbranched bur-reed
<i>Sparganium erectum</i>	Branched bur-reed
<i>Spirodela polyrhiza</i>	Greater Duckweed
<i>Typha angustifolia</i>	Lesser Reedmace
<i>Typha latifolia</i>	Bulrush
<i>Veronica anagallis-aquatica</i>	Blue Water Speedwell
<i>Veronica beccabunga</i>	Brooklime
<i>Veronica catenata</i>	Pink Water Speedwell
<i>Veronica scutellaria</i>	Marsh Speedwell
<i>Zanichellia palustris</i>	Horned Pondweed
<i>Riccia/Ricciocarpus spp.</i>	Liverworts

Plants of Wetlands**Table 4c Indicative species list for nutrient poor standing waters (dystrophic, oligotrophia through to mesotrophic)**

All species score 1 with the exception of those species in **bold** (Derbyshire Red Data Book Plant Species; provisional March 2002) which score 2.

- Species marked with an asterisk are characteristic of mesotrophic conditions.
- Species with common names in italics have no post 1987 records in the county.

Scientific Name	Common Name
<i>Apium inundatum</i>	Lesser Marshwort*
<i>Callitriche hamulata</i>	Intermediate Water-starwort
<i>Carex paniculata</i>	Greater tussock sedge
<i>Carex limosa</i>	Mud sedge
<i>Carex rostrata</i>	Bottle Sedge*
<i>Chara sp.</i>	Stoneworts*
<i>Equisetum fluviatile</i>	Water Horsetail
<i>Eriophorum spp.</i>	Any species of cotton grass
<i>Hippuris vulgaris</i>	Marestail
<i>Hottonia palustris</i>	Water violet*
<i>Juncus bulbosus</i>	Bulbous Rush
<i>Litorella uniflora</i>	Shoreweed*
<i>Menyanthes trifoliata</i>	Bog Bean*
<i>Myriophyllum alterniflorum</i>	Alternate Water-milfoil*
<i>Nitella spp.</i>	Stonewort
<i>Nymphaea alba</i>	White water lily
<i>Potamogeton alpinus</i>	Red Pondweed*
<i>Potamogeton bertoldii</i>	Small Pondweed
<i>Potamogeton compressus</i>	Grass-wrack Pondweed
<i>Potamogeton friesii</i>	Flat-stalked Pondweed
<i>Potamogeton natans</i>	Broad-leaved Pondweed
<i>Potamogeton obtusifolius</i>	Blunt-leaved Pondweed*
<i>Potamogeton pectinatus</i>	Fennel Pondweed
<i>Potamogeton perfoliatus</i>	Perfoliate Pondweed
<i>Potamogeton polygonifolius</i>	Bog Pondweed
<i>Potamogeton praelongus</i>	Long-stalked Pondweed
<i>Potamogeton pusillus</i>	Lesser Pondweed
<i>Potentilla palustris</i>	Marsh Cinquefoil
<i>Ranunculus aquatilis</i>	Common Water-crowfoot
<i>Ranunculus circinatus</i>	Fan-leaved Water-crowfoot
<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Ranunculus fluitans</i>	River Water-crowfoot
<i>Ranunculus hederaceus</i>	Ivy-leaved Crowfoot
<i>Ranunculus omiophyllus</i>	Round-leaved Crowfoot
<i>Ranunculus peltatus</i>	Pond Water-crowfoot
<i>Ranunculus penicillatus</i>	Stream Water-crowfoot

<i>Ranunculus trichophyllus</i>	Thread-leaved Water-crowfoot
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush
<i>Sphagnum spp.</i>	Bog moss

Table 4d: Indicative species list for drawdown zones and open vegetation of inundation habitat.

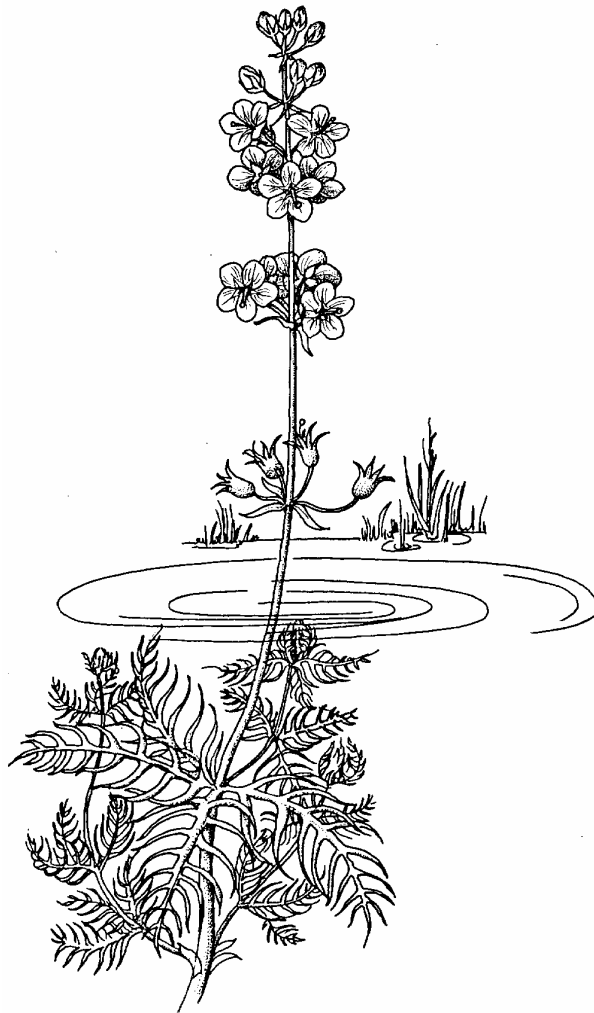
Scoring

All species score 1 with the exception of those species in **bold** (Derbyshire Red Data Book Plant Species; provisional March 2002) which score 2.

- Species marked with an asterisk are specialist species of these conditions.
- Species in italics have no post 1987 records in the county.

Scientific Name	Common Name
<i>Agrostis stolonifera</i>	Creeping Bent
<i>Alopecurus aequalis</i>	Orange Foxtail*
<i>Alopecurus geniculatus</i>	Marsh Foxtail
<i>Bidens cernua</i>	Nodding bur marigold
<i>Bidens tripartita</i>	Trifid bur marigold
<i>Blysmus compressus</i>	Flat Sedge
<i>Callitriche spp.</i>	Water-starworts
<i>Chenopodium polyspermum</i>	Many-seeded Goosefoot*
<i>Chenopodium rubrum</i>	Red Goosefoot
<i>Eleocharis acicularis</i>	Needle spike rush*
<i>Glyceria declinata</i>	Small Sweet-grass
<i>Glyceria fluitans</i>	Floating sweet grass
<i>Glyceria notata</i>	Plicate sweet grass
<i>Gnaphalium uliginosum</i>	Marsh Cudweed
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Isolepis setacea</i>	Bristle Club-rush
<i>Juncus bufonius</i>	Toad Rush
<i>Limosella aquatica</i>	Mudwort*
<i>Litorella uniflora</i>	Shoreweed*
<i>Lythrum portula</i>	Water Purslane*
<i>Mentha aquatica</i>	Water Mint
<i>Myosotis spp.</i>	Water Forget-me-nots
<i>Persicaria amphibium</i>	Amphibious bistort
<i>Persicaria hydropiper</i>	Water-pepper
<i>Persicaria lapathifolia</i>	Pale Persicaria
<i>Persicaria minor</i>	Small Water-pepper*
<i>Potentilla anserina</i>	Silverweed
<i>Pulicaria dysenterica</i>	Common Fleabane
<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Ranunculus hederaceus</i>	Ivy-leaved Crowfoot

<i>Ranunculus ompiophyllus</i>	Round-leaved Crowfoot
<i>Ranunculus scleratus</i>	Celery leaved Buttercup
<i>Ranunculus trichophyllus</i>	Thread-leaved Water-crowfoot
<i>Rorippa microphylla</i>	Narrow-fruited Water-cress
<i>Rorippa palustris</i>	Marsh Yellow-cress
<i>Rorippa sylvestris</i>	Creeping Yellow-cress
<i>Rumex maritimus</i>	Golden Dock*
<i>Rumex palustris</i>	Marsh Dock*
<i>Stachys palustris</i>	Marsh woundwort
<i>Stellaria palustris</i>	Marsh Stitchwort
<i>Stellaria uliginosum</i>	Bog Stitchwort
<i>Veronica scutellaria</i>	Marsh Speedwell



Water Violet