11.9 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 silicaceous 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 Local Wildlife Site.

Ri1. A stretch of river or similar water course that has 1 or more of the following a) – d);

a) 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

UKBAP Habitat Action Plan – Rivers

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 Local 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 –Rivers

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.

Table 4a Flowing Water vascular plants

Scoring

All species score 1 with the exception of those species in **bold** (Derbyshire Vascular Plant Red Data List Species - 2009) 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
Alisma lanceolatum	**Narrow-leaved Water-plantain**
Alisma plantago-aquatica	Water-plantain
Apium nodiflorum	Fool's-water-cress
Berula erecta	Lesser Water-parsnip*
Butomus umbellatus	Flowering-rush
Callitriche spp.	Water-starworts*
Carex acuta	**Slender Tufted-sedge**
Carex acutiformis	Lesser Pond-sedge
Carex paniculata	Greater Tussock-sedge*
Carex riparia	Greater Pond-sedge
Ceratophyllum demersum	Rigid Hornwort
Chara sp.	Stoneworts
Eupatorium cannabinum	Hemp-agrimony
Glyceria spp.	Sweet-grasses
Groenlandia densa	***Opposite-leaved Pondweed****
Hippuris vulgaris	Marestail*
Hottonia palustris	**Water Violet**
Iris pseudacorus	Yellow Flag
Lythrum salicaria	Purple Loosestrife
Mentha aquatica	Water Mint
Menyanthes trifoliata	**Bog Bean***
Myosotis laxa	Tufted Forget-me-not
Myosotis scorpioides	Water Forget-me-not
Myosotis secunda	Creeping Forget-me-not
Myriophyllum alterniflorum	**Alternate Water-milfoil**
Myriophyllum spicatum	Spiked Water-milfoil
Myriophyllum verticillatum	**Whorled Water-milfoil**
Nasturtium officinale	Water-cress*
Nuphar lutea	Yellow Water-lily
Nymphaea alba	White Water-lily
Oenanthe aquatica	**Fine-leaved Water-dropwort**
Oenanthe crocata	Hemlock Water-dropwort
Oenanthe fistulosa	**Tubular Water-dropwort**
Oenanthe silaifolia	Narrow-leaved Water-dropwort

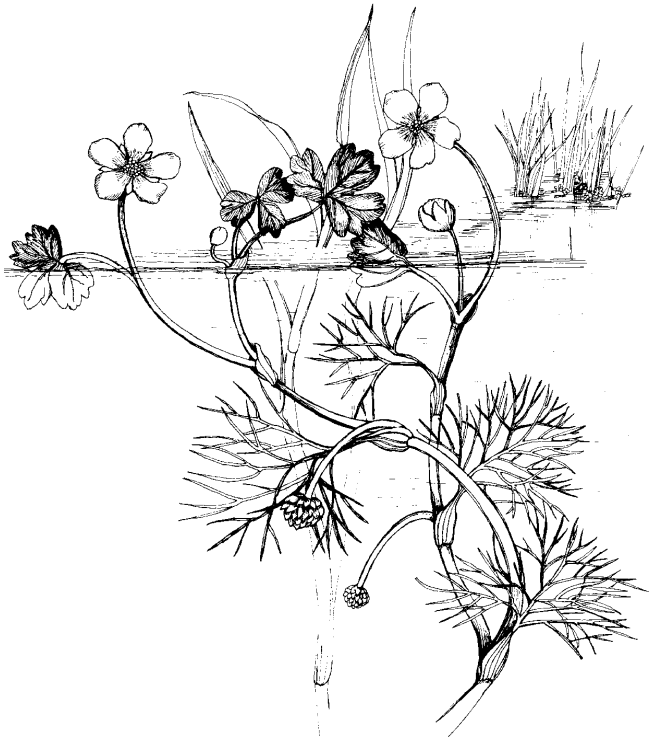
Table 4a Flowing Water vascular plants

Scoring

All species score 1 with the exception of those species in **bold** (Derbyshire Vascular Plant Red Data List Species - 2009) 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
Phragmites australis	Common Reed
Potamogeton spp.	Pondweeds
Ranunculus circinatus	**Fan-leaved Water-crowfoot**
Ranunculus fluitans	River Water-crowfoot*
Ranunculus penicillatus	Stream Water-crowfoot*
Ranunculus spp.	Other water-crowfoot species*
Rumex hydrolapathum	Water Dock
Sagittaria sagittifolia	Arrowhead
Schoenoplectus lacustris	Common Club-rush
Schoenoplectus tabernaemontani	Grey Club-rush
Sparganium emersum	Unbranched Bur-reed
Sparganium erectum	Branched Bur-reed
Spirodela polyrhiza	Greater Duckweed
Veronica anagallis-aquatica	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.

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. Survey in 1989 (Derbyshire Wildlife Trust, 1989) 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 run-off. 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. Some support a specialised drawdown zone flora. 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 Vole . 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 – Artificially created and maintained waterbodies designed to attenuate surface water drainage from built developments. 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 Local Wildlife Site if they warrant designation in their own right. If they do not warrant designation they may also be included within the Local 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 Local 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 Local Wildlife Site.

Stw1 A eutrophic 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 Waters

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.

Stw2 A mesotrophic 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 Lakes

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)

Stw3 A standing water body that supports one of the following rare aquatic habitats or communities in Derbyshire as follows:

a) 5 or more submerged native aquatic plants

b) stable charophyte communities

UKBAP Habitat Action Plans – Eutrophic Standing Waters, Mesotrophic Standing Lakes

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.

Charopytes are green algae which grow completely submerged in most types of wetland but which are most typically found in standing or slow moving waterbodies. Most species require high water quality and therefore they are useful indicators of mesotrophic conditions. They have the ability to absorb nutrients and clarify water and provide suitable habitat for many invertebrates. Most species decline when conditions become eutrophic.

Stw4 A standing water site that supports seasonal drawdown zones and vegetation of open habitat characterised by:

a) the presence of at least 5 species listed in Table 4d

b) OR one of the following NVC communities:

OV28 *Agrostis stolonifera – Ranunculus repens*
OV29 *Alopecurus geniculatus – Rorippa palustris*
OV30 *Bidens tripartita – Persicaria amphibia*
OV31 *Rorippa palustris – Gnaphalium uliginosum*
OV32 *Myosotis scorpioides – Ranunculus sceleratus*
OV35 *Lythrum portula – Ranunculus flammula*
MG13 *Agrostis stolonifera – Alopecurus geniculatus* grassland

UKBAP Habitat Action Plans – Eutrophic Standing Waters, Mesotrophic Lakes, Coastal and Floodplain Grazing Marsh, Lowland Fens

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
Vegetation communities of the drawdown zone and marginal wetland open 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.

Stw5 Any pond (standing water of < 2ha in size) that has a minimum PSYM score of 65% or more.

UKBAP Habitat Action Plans – Ponds

Application
This guideline can be applied to any pond that has been surveyed using the standardised PSYM survey methodology. PSYM is the recognised standard pond survey methodology developed by Pond Conservation and the Environment Agency. It provides an assessment of the overall ecological quality of the site based on a number of features including environmental data together with aquatic plant and macroinvertebrate data. (PCTPR, 2009)

Justification
Sites achieving a score of 75% or more are considered to be a UK BAP Priority Habitat. However, many standing water sites with scores less than this can be of considerable local importance and this criteria aims to reflect this importance and capture such sites. Use of the PSYM survey methodology enables some assessment of the aquatic invertebrate value of sites, something not reflected in the other standing water criteria.

Stw6 A standing water site that meets the criteria of a priority pond in the proposed National Pond HAP, either for species of high conservation importance or for exceptional assemblages of key biotic groups.

UKBAP Habitat Action Plans – Ponds

Application
This guideline can be applied to any standing water site that is found to support good populations of Red Data Book species, UK BAP priority species, species

fully protected under the Wildlife and Countryside Act Schedules 5 and 6, Habitats Directive Annex ll species, a Nationally Scarce wetland plant species or supports exceptional populations or numbers of key species (i.e. supports 30 or more wetland plant species or 50 or more aquatic macroinvertebrate species). Good populations of amphibian BAP species are defined in Table 10 of the amphibian, reptiles and fish chapter

Justification
Data from the Countryside Survey 2007 (Carey, P.D. *et al*, 2008) provided consistent evidence that ponds in England and Wales are widely degraded with around 80% of ponds in poor or very poor condition and that there had been a marked decline in quality since the Lowland Pond Survey in 1996. It is therefore important to protect those ponds across Derbyshire that are still valuable for wildlife.

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 Vascular Plant Red Data List Species - 2009) 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
Alisma lanceolatum	**Narrow-leaved Water-plantain**
Alisma plantago-aquatica	Water-plantain
Apium inundatum	**Lesser marshwort***
Apium nodiflorum	Fool's-water-cress
Berula erecta	Lesser Water-parsnip
Butomus umbellatus	Flowering-rush
Callitriche brutia ssp. molliformis	**Intermediate Water-starwort**
Callitriche hermaphroditica	**Autumnal Water-starwort**
Callitriche obtusangula	**Blue-fruited Water-starwort**
Callitriche platycarpa	**Various-leaved Water-starwort**
Callitriche stagnalis	Common Water-starwort
Callitriche truncata	**Short-leaved Water-starwort**
Carex acuta	**Slender Tufted-sedge**
Carex acutiformis	Lesser Pond-sedge
Carex disticha	**Brown Sedge**
Carex paniculata	Greater Tussock-sedge
Carex pseudocyperus	Cyperus Sedge
Carex riparia	Greater Pond-sedge
Carex rostrata	Bottle Sedge
Carex vesicaria	**Bladder Sedge**

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 Vascular Plant Red Data List Species - 2009) 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
Catabrosa aquatica	**Whorl-grass**
Ceratophyllum demersum	Rigid Hornwort
Chara sp.	Stoneworts*
Eleocharis acicularis	**Needle Spike-rush**
Eleocharis palustris	Common Spike-rush
Equisetum fluviatile	Water Horsetail
Glyceria declinata	Small Sweet-grass
Glyceria fluitans	Floating Sweet-grass
Glyceria notata	Plicate Sweet-grass
Groenlandia densa	***Opposite-leaved Pondweed***
Hippuris vulgaris	Marestail
Hottonia palustris	**Water Violet***
Hydrocotyle vulgaris	Marsh Pennywort
Iris pseudacorus	Yellow Iris
Lemna gibba	Fat Duckweed
Lemna trisulca	Ivy-leaved Duckweed
Littorella uniflora	Shoreweed*
Luronium natans	**Floating Water-plantain**
Lythrum salicaria	Purple Loosestrife
Mentha aquatica	Water Mint
Menyanthes trifoliata	**Bog Bean***
Myosotis laxa	Tufted Forget-me-not
Myosotis scorpioides	Water Forget-me-not
Myosotis secunda	Creeping Forget-me-not
Myriophyllum alterniflorum	**Alternate Water-milfoil**
Myriophyllum spicatum	Spiked Water-milfoil
Myriophyllum verticillatum	**Whorled Water-milfoil***
Nasturtium officinale	Water-cress
Nitella spp.	Any stonewort
Nuphar lutea	Yellow Water-lily
Nymphaea alba	White Water-lily
Oenanthe aquatica	**Fine-leaved Water-dropwort**
Oenanthe crocata	Hemlock Water-dropwort
Oenanthe fistulosa	**Tubular Water-dropwort**

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 Vascular Plant Red Data List Species - 2009) 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
Oenanthe silaifolia	Narrow-leaved Water-dropwort
Persicaria amphibia	Amphibious Bistort
Phalaris arundinacea	Reed Canary-grass
Phragmites australis	Common Reed
Potamogeton alpinus	**Red Pondweed***
Potamogeton berchtoldii	Small Pondweed
Potamogeton compressus	**Grass-wrack Pondweed**
Potamogeton crispus	Curled Pondweed
Potamogeton friesii	**Flat-stalked Pondweed**
Potamogeton lucens	**Shining Pondweed**
Potamogeton natans	Broad-leaved Pondweed
Potamogeton obtusifolius	**Blunt-leaved Pondweed***
Potamogeton pectinatus	Fennel Pondweed
Potamogeton perfoliatus	**Perfoliate Pondweed**
Potamogeton polygonifolius	Bog Pondweed
Potamogeton praelongus	**Long-stalked Pondweed**
Potamogeton pusillus	Lesser Pondweed
Ranunculus aquatilus	Common Water-crowfoot
Ranunculus circinatus	**Fan-leaved Water-crowfoot**
Ranunculus fluitans	River Water-crowfoot
Ranunculus hederaceus	Ivy-leaved Crowfoot
Ranunculus omiophyllus	Round-leaved Crowfoot
Ranunculus peltatus	Pond Water-crowfoot
Ranunculus penicillatus	Stream Water-crowfoot
Ranunculus trichophyllus	Thread-leaved Water-crowfoot
Rumex hydrolapathum	Water Dock
Rumex maritimus	Golden Dock
Sagittaria sagittifolia	Arrowhead
Schoenoplectus lacustris	Common Club-rush
Schoenoplectus tabernaemontani	Grey Club-rush
Scirpus sylvaticus	**Wood Club-rush**
Sparganium emersum	Unbranched Bur-reed
Sparganium erectum	Branched Bur-reed

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 Vascular Plant Red Data List Species - 2009) 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
Spirodela polyrhiza	Greater Duckweed
Typha angustifolia	Lesser Bulrush
Typha latifolia	Bulrush
Veronica anagallis-aquatica	Blue Water-speedwell
Veronica beccabunga	Brooklime
Veronica catenata	Pink Water-Speedwell
Veronica scutellata	**Marsh Speedwell**
Zanichellia palustris	**Horned Pondweed**

Plants of Wetlands

Table 4c Indicative species list for nutrient poor standing waters (dystrophic, oligotrophic through to mesotrophic)

All species score 1 with the exception of those species in **bold** (Derbyshire Vascular Plant Red Data List Species - 2009) which score 2.

- Species marked with an asterisk are characteristic of mesotrophic conditions.

Scientific Name	Common Name
Apium inundatum	**Lesser Marshwort***
Callitriche brutia ssp. hamulata	**Intermediate Water-starwort**
Carex limosa	Mud Sedge
Carex paniculata	Greater Tussock-sedge
Carex rostrata	Bottle Sedge*
Chara sp.	Stoneworts*
Comarum palustre	**Marsh Cinquefoil**
Equisetum fluviatile	Water Horsetail
Eriophorum sp.	Any species of cotton grass
Hippuris vulgaris	Marestail
Hottonia palustris	**Water Violet***
Juncus bulbosus	Bulbous Rush
Litorella uniflora	Shoreweed*
Menyanthes trifoliata	**Bog Bean***
Myriophyllum alterniflorum	**Alternate Water-milfoil***
Nitella spp.	Stonewort

Plants of Wetlands

Table 4c Indicative species list for nutrient poor standing waters (dystrophic, oligotrophic through to mesotrophic)

All species score 1 with the exception of those species in **bold** (Derbyshire Vascular Plant Red Data List Species - 2009) which score 2.

- Species marked with an asterisk are characteristic of mesotrophic conditions.

Scientific Name	Common Name
Nymphaea alba	White Water-lily
Potamogeton alpinus	**Red Pondweed***
Potamogeton berchtoldii	Small Pondweed
Potamogeton compressus	**Grass-wrack Pondweed**
Potamogeton friesii	**Flat-stalked Pondweed**
Potamogeton natans	Broad-leaved Pondweed
Potamogeton obtusifolius	**Blunt-leaved Pondweed***
Potamogeton pectinatus	Fennel Pondweed
Potamogeton perfoliatus	**Perfoliate Pondweed**
Potamogeton polygonifolius	Bog Pondweed
Potamogeton praelongus	**Long-stalked Pondweed**
Potamogeton pusillus	Lesser Pondweed
Ranunculus aquatilus	Common Water-crowfoot
Ranunculus circinatus	**Fan-leaved Water-crowfoot**
Ranunculus flammula	Lesser Spearwort
Ranunculus fluitans	River Water-crowfoot
Ranunculus hederaceus	Ivy-leaved Crowfoot
Ranunculus omiophyllus	Round-leaved Crowfoot
Ranunculus peltatus	Pond Water-crowfoot
Ranunculus penicillatus	Stream Water-crowfoot
Ranunculus trichophyllus	Thread-leaved Water-crowfoot
Schoenoplectus tabernaemontani	Grey Club-rush

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

Scoring

All species score 1 with the exception of those species in **bold** (Derbyshire Vascular Plant Red Data List Species - 2009) which score 2.

- Species marked with an asterisk are specialist species of these conditions.

Scientific Name	Common Name
Agrostis stolonifera	Creeping Bent
Alisma plantago aquatica	Water-plantain
Alopecurus aequalis	**Orange Foxtail***
Alopecurus geniculatus	Marsh Foxtail
Bidens cernua	Nodding Bur-marigold
Bidens tripartita	Trifid Bur-marigold
Blysmus compressus	**Flat Sedge**
Callitriche spp.	Water-starworts
Chenopodium polyspermum	Many-seeded Goosefoot*
Chenopodium rubrum	Red Goosefoot
Eleocharis acicularis	**Needle Spike-rush***
Eleocharis palustris	Common Spike-rush
Glyceria declinata	Small Sweet-grass
Glyceria fluitans	Floating Sweet-grass
Glyceria notata	Plicate Sweet-grass
Gnaphalium uliginosum	Marsh Cudweed
Hydrocotyle vulgaris	Marsh Pennywort
Isolepis setacea	Bristle Club-rush
Juncus articulatus	Jointed Rush
Juncus bufonius	Toad Rush
Juncus bulbosus	Bulbous Rush
Limosella aquatica	**Mudwort***
Littorella uniflora	Shoreweed*
Lycopus europaeus	Gypsywort
Lysimachia nummularia	Creeping-Jenny
Lythrum portula	Water Purslane*
Mentha aquatica	Water Mint
Myosotis spp.	Water Forget-me-nots
Nasturtium microphyllum	Narrow-fruited Water-cress
Persicaria amphibia	Amphibious Bistort
Persicaria hydropiper	Water-pepper
Persicaria lapathifolia	Pale Persicaria
Persicaria maculosa	Redshank
Persicaria minor	**Small Water-pepper***
Potentilla anserina	Silverweed
Pulicaria dysenterica	Common Fleabane

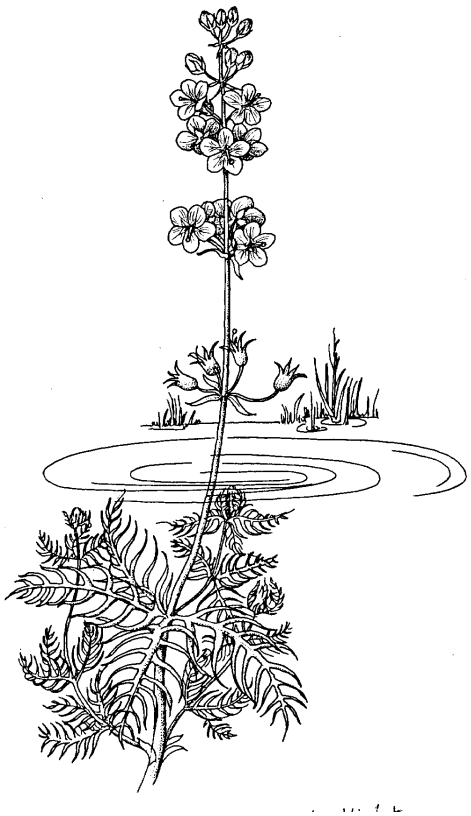
Table 4d: Indicative species list for drawdown zones and vegetation of inundation open habitat.

Scoring

All species score 1 with the exception of those species in **bold** (Derbyshire Vascular Plant Red Data List Species - 2009) which score 2.

- Species marked with an asterisk are specialist species of these conditions.

Scientific Name	Common Name
Ranunculus flammula	Lesser Spearwort
Ranunculus hederaceus	Ivy-leaved Crowfoot
Ranunculus omiophyllus	Round-leaved Crowfoot
Ranunculus sceleratus	Celery-leaved Buttercup
Ranunculus trichophyllus	Thread-leaved Water-crowfoot
Rorippa palustris	Marsh Yellow-cress
Rorippa sylvestris	Creeping Yellow-cress
Rumex maritimus	Golden Dock*
Rumex palustris	Marsh Dock*
Stachys palustris	Marsh woundwort
Stellaria palustris	**Marsh Stitchwort**
Stellaria uliginosum	Bog Stitchwort
Tripleurospermum inodorum	Scentless Mayweed
Veronica scutellata	**Marsh Speedwell**



Water Violet