



these communities are extensive stands of willow scrub characterised largely by grey willow *S. cinerea*, common osier *Salix viminalis* and sallow *S. caprea*.

Older stands of wet, seasonally-flooded woodland occur on the former silt-beds, peninsulas and islands in the north of the complex, forming the largest example of this now scarce type of woodland in the county. Crack willow *S. fragilis*, white willow *S. alba* and alder *Alnus glutinosa* dominate, with occasional ash *Fraxinus excelsior* and birch *Betula pendula*. Osier, sallow, grey willow, purple willow *S. purpurea* and almond willow *S. triandra* occur in a dense shrub layer with abundant fallen and standing decaying wood. A number of unusual hybrids and varieties of willow are also found here, reflecting the presence of a former willow holt. The field layer of these woodland stands is typically species-poor, characterised by common nettle *Urtica dioica*, cleavers *Galium aparine* and rough meadow-grass *Poa trivialis* alongside fen plants such as pendulous sedge *C. pendula*, gypsywort *Lycopaeus europaeus* and marsh bedstraw *Galium palustre*. Bramble *Rubus fruticosus* and ferns such as broad buckler-fern *Dryopteris dilatata* denote drier ground, grading into scrub dominated by hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* and buckthorn *Rhamnus catharticus*. At its margins, the woodland becomes more open and grades into wet scrub, swamp vegetation and open water.

Small areas of species-rich grassland represent remnants of the pre-extraction floodplain landscape, and include an important example of a seasonally-inundated floodplain grassland community which has been greatly reduced in extent across much of England. At Attenborough this plant community is characterised by a diverse range of characteristic herbs including great burnet *Sanguisorba officinalis*, ladies-bedstraw *Galium verum*, common sorrel *Rumex acetosa*, bird's-foot trefoil *Lotus corniculatus*, common knapweed *Centaurea nigra*, meadow vetchling *Lathyrus pratensis*, pepper saxifrage *Silaum silaus*, betony *Stachys officinalis*, devil's-bit scabious *Succisa pratensis* and autumn hawkbit *Leontodon autumnalis*. Species of particular note are salad burnet *Sanguisorba minor*, a plant more commonly associated with calcareous soils but which is locally abundant here, and dropwort *Filipendula vulgaris*, which is now uncommon in Nottinghamshire. Various grasses are also typical of these swards with red fescue *Festuca rubra*, Yorkshire fog *Holcus lanatus*, sweet vernal-grass *Anthoxanthum odoratum*, meadow foxtail *Alopecurus pratensis* and crested dog's-tail *Cynosurus cristatus* all featuring strongly. Coarser grasses such as tufted hair-grass *Deschampsia cespitosa* become increasingly frequent in places, along with herbs such as ragged robin *Lychnis flos-cuculi*, gypsywort, marsh ragwort *Senecio aquaticus*, water mint *Mentha aquatica* and amphibious bistort *Pesicaria amphibia* where the grassland meets the wetter margins of the open waters, whilst meadowsweet *Filipendula ulmaria* dominates areas of taller fen-meadow.

The assemblage of breeding birds associated with the open waters and their margins is exceptional. The varied shorelines, islands, promontories, bays and lagoons, with their dense waterside vegetation, provide an abundance of undisturbed nesting and feeding habitat for regular breeding species such as tufted duck *Aythya fuligula*, little grebe *Tachybaptus ruficollis*, gadwall *Anas strepera*, mute swan *Cygnus olor* and great crested grebe *Podiceps cristatus*. Large numbers of breeding reed warblers *Acrocephalus scirpaceus* and sedge warblers *A. schoenobaenus*, along with reed buntings *Emberiza schoeniclus*, cuckoos *Cuculus canorus* and the uncommon Cetti's warblers *Cettia cetti*, are associated with areas of taller swamp and carr woodland. Sparsely-vegetated features such as islands and eroding shorelines provide valuable nesting habitat for little ringed plovers *Charadrius dubius* and the largest colony of nesting common terns *Sterna hirundo* in the county. Vertical sandy banks are important for nesting kingfishers *Alcedo atthis*, whilst

mature trees fringing the lagoons provide nest sites for a colony of grey herons *Ardea cinerea*.

The site is one of the most important localities in the county for waterbirds in the non-breeding season. Whilst notable numbers of migrating birds occur on passage during the spring and autumn months, the gravel pits, and particularly the southern lagoons, are significant as winter refuges for a wide variety of waterbirds. They are particularly important for wintering shoveler *Anas clypeata* and bittern *Botaurus stellaris*, with both species regularly occurring in nationally important numbers. Great crested grebes regularly congregate in numbers that make Attenborough the most important wintering locality for this species in Nottinghamshire, although not of national importance