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ITEM 6(h) APPENDIX

NEWCASTLE & NORTH TYNESIDE

BIODIVERSITY ACTION PLAN

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I. INTRODUCTION

Biodiversity is the rich variety of life on earth. This encompasses all plants and animals and their habitats, even micro-organisms such as bacteria. It is not just about rare or endangered species, it also includes wildlife that is familiar to all of us in the places where we live and work. Therefore biodiversity is all life on the planet, from the smallest of sea creatures to the birds we see in our parks and gardens.

The UK government produced 'Biodiversity: the UK Action Plan' in 1994 with the aim of conserving and enhancing biological diversity in the UK. To achieve these aims it was recommended by the UK Biodiversity Steering Group, that Local Biodiversity Action Plans (LBAPs) were produced to translate national wildlife targets into local action.

The Newcastle Biodiversity Action Plan (BAP) was published in 2001 and the North Tyneside Plan was published in 2005. These documents took the objectives and targets of the 'UK Biodiversity Action Plan' and translated and amplified them into a local context.

Both BAPS have a joint steering group partnership and in 2008 it was agreed by the Newcastle & North Tyneside BAP Steering Group to merge the two BAPs into a more strategic joint Action Plan covering both local authority areas. The steering group comprises of individuals from the main organisations contributing towards the delivery of targets and actions in the BAP. The Partnership oversees the ongoing development and implementation of the BAP. Priority habitats and species have been chosen by the steering group to reflect the current concerns of wildlife organisations and the community.

This new Action Plan is a ten year vision for the protection and enhancement of biodiversity in Newcastle & North Tyneside. The aim of the BAP is to ensure that we manage our natural environment more effectively to protect these natural resources and to leave a legacy that will benefit present and future generations.

Everyone can play a role in helping to deliver this plan. By taking action at the local level, either by forming a local community group, planting trees or simply putting up a bird box in your garden, you can contribute to local, regional and national targets and make a real difference to biodiversity in Newcastle & North Tyneside.

II.
HABITAT ACTION PLANS

1. BUILDINGS AND STRUCTURES

General Description

This action plan covers all buildings, their walls, roofs and associated features, and other artificial structures. These include; residential and domestic properties (houses, residential care homes), commercial facilities (offices & shops), education and recreation establishments (schools, colleges, sports centres), religious buildings (churches, mosques etc), industrial units (factories, warehouses), transport structures (metro stations, bridges, retaining walls, tunnels, subways, lighting columns), electricity and telecommunication installations (pylons, substations, telephone masts), sewage treatment facilities, sea defences, statues and ancient monuments. The plan also covers derelict and disused buildings and structures as well as agricultural buildings in farmland areas.

Buildings are extremely variable according to their age, the material they are made from and their use. They provide important replacement habitat for a range of wildlife, particularly for breeding and shelter. In fact many buildings provide roosting sites for bats and nesting sites for birds. Some animal species will spend most of their lifecycle within such structures, while others will only spend part of it there. Nevertheless, the predominance of buildings and artificial structures within such an urban environment, and their importance for wildlife, means that they make an important contribution to the biodiversity resource.

A ‘green roof’ (or ‘living roof’) is a roof with the majority of its surface covered by vegetation and/or growing medium.Green roofs enhance biodiversity and reduce the effects of climate change. In addition, using plants to green walls also benefits biodiversity, it provides a transit route for wildlife between habitat at ground level and that established on a green roof.

Current Status

In Newcastle and North Tyneside there are a range of buildings and artificial structures which vary considerably in age, size and structure which can determine their value as roosting and nesting habitats for wildlife.

A number of buildings and structures occur within recognised Local Wildlife Sites and contribute to the nature conservation interest of these areas by providing roosting and breeding opportunities for wildlife, particularly birds. Examples include buildings in cemeteries which provide bat roosts and old houses which provide nesting opportunities for birds. However, many of the buildings with wildlife interest occur outside of these designated nature conservation sites, including significant buildings and structures along the River Tyne at North Shields and the Tyne Bridge and Tower in Newcastle.

Bats are frequent throughout both Newcastle and North Tyneside, with pipistrelle being the most widespread species frequenting a wide range of

both old and new buildings. Barn owl is another species linked to farm buildings particularly in rural areas but also found in some urban areas.

Other species which breed exclusively on buildings during the summer months include swallow swift, house martin and house sparrow. Buildings and artificial structures adjacent to the River Tyne and the coast also support breeding populations of kittiwake, including at their only known inland location in Newcastle and Gateshead and provide nesting ledges for fulmar.

Issues of Concern

- Lack of knowledge of the presence of protected species (including all species of birds during the breeding season) in buildings and structures and an ignorance of the requirements of the Wildlife and Countryside Act 1981 (as amended) can lead to disturbance of important roosts and nest sites and the loss of species.

- Lack of understanding of the biodiversity value of buildings.

- Insensitive renovation, improvement or demolition works can destroy valuable nest and roost features associated with old buildings and other structures, such as bridges. For example, demolition of derelict buildings will clearly adversely affect any species using the structure, whilst the removal or alteration of external features (e.g. removal of timber facades, chemical treatment of timber, etc.) can reduce roosting and nesting opportunities for important species.

- The design and materials used for many modern buildings, such as houses and light industrial units, provide very few nesting or roosting opportunities for wildlife in comparison with older buildings and structures.

- Contamination, such as toxic metals or petroleum from previous industrial use.

- Colonisation by non-native or pest species which drive out priority species.

- Concern over noise and mess may lead to nesting birds or bats being excluded from buildings.

BUILDINGS AND STRUCTURES TARGETS	TARGET DATE	PARTNERS
Produce best practice guidelines for planners, developers & internal council departments regarding biodiversity value of buildings & structures.	2012	NTC, NCC
Secure or create nesting habitat for Kittiwakes along the River Tyne to enable existing colonies to expand or move.	2016	NTC, NCC, NWT, NWL, NHSN

Ensure existing kittiwake sites are protected	Ongoing	NTC, NCC, GMBC
Incorporate 1 new green roof into new developments in both Newcastle & North Tyneside.	2014	NTC, NCC
Produce guidance on green roofs for developers & planners.	2012	NCC, NTC
Incorporate 15 nest boxes within buildings along the metro line.	2014	NTC, NCC, Nexus
Request nesting/ roosting features on all new and renovated developments requiring ecological consultation.	Ongoing	NTC, NCC
All information acquired on nesting/roosting sites for protected species will be submitted to ERIC.	Ongoing	NTC, NCC, ERIC
Encourage public to submit sightings of swifts at roof level to the National Swift Inventory.	Ongoing	NTC, NCC, RSPB

Links to Other Plans

Habitat Action Plans	**Species Action Plans**
Transport Corridors	Bats
Managed Urban Greenspace	Farmland Birds
Estuary and Coastal	Urban Birds
Brownfield Land	

Potential Target Delivery Areas

Feature	**Site**	**Local Authority Area**
Kittiwake Tower	Northumberland Dock	North Tyneside
Green Roof	Science Central	Newcastle
Green Roof	Rising Sun Area	North Tyneside
Nesting boxes	Metro Stations	Newcastle/North Tyneside

2. ESTUARY AND COASTAL HABITAT

General Description

This action plan covers all habitats occurring within or directly adjacent to the River Tyne estuary and all natural and semi-natural habitats occurring within or directly adjacent to the tidal zone of North Tyneside's coastline.

Coastal habitats include open sea, offshore islands and reefs, intertidal rocky foreshore areas and sandy beaches, sand dunes, sea cliffs and cliff top areas along the coast between St Mary's Island, Whitley Bay and North Shields Fish Quay. All of North Tyneside's beaches and intertidal habitats downstream of the Fish Quay lie within the Northumberland Shore SSSI (Site of Special Scientific Interest) which is designated for its nationally important numbers of wintering shore birds. In addition, the areas of rocky shore form part of the Northumbria Coast SPA (Special Protection Area) and Ramsar site, an internationally important bird site. Most of the sea cliff habitat within North Tyneside forms part of the Tynemouth to Seaton Sluice SSSI, a nationally important geological site designated for its exposures of Coal Measures strata.

North Tyneside's intertidal habitats provide important winter feeding and roosting habitats for numerous wading birds including purple sandpiper and turnstone (two of the species for which the Northumbria Coast SPA/Ramsar site is designated), sanderling, ringed plover, golden plover, redshank, lapwing, dunlin and curlew.

Significant numbers of eider also feed in the intertidal area all year round whilst the mouth of the river Tyne is important for the number of terns that feed there during the early autumn, including the rare roseate tern. St Mary's Island is a particularly important site for roseate tern, as a high proportion of the post breeding population from Coquet Island spends a portion of their time feeding there**.** The steep sea cliffs along the coast provide breeding sites for kittiwake, fulmar and rock pipit, whilst pockets of coastal scrub vegetation provide a refuge for numerous spring and autumn passerine migrants.

Coastal grassland along the cliff tops supports a number of plant species that are adapted to cope with regular exposure to sea-spray, such as thrift, buck's-horn plantain and common scurvy grass.

The marine environment around North Tyneside supports a diverse range of wildlife. Caves, wrecks and reef faces are covered by communities of soft corals, sponges, bryozoans, sea squirts and anemones. Among the fish species found in the area are leopard spot goby and lumpsucker. Crabs and lobster are commercially exploited and small cetaceans, such as harbour porpoise, use the area regularly. Migrating salmonids off the coast and throughout the estuary have also benefited from improved cleaner conditions.

Intertidal habitats in the outer Tyne estuary between North Shields Fishquay and the open coast form part of the SPA/Ramsar site and SSSI. In addition, the tidal River Tyne between the Fish Quay and Newburn supports regionally-important numbers of wintering waterbirds and breeding shelduck in the summer. It is also an important migratory route for salmon and sea trout to the upper reaches of the Tyne. The entire length of the Tyne estuary forms a wildlife corridor, linking a network of designated sites together.

Estuaries provide a diverse range of habitats including intertidal mudflats, saltmarsh, rocky shores and beaches, all of which support a wide range of aquatic and terrestrial species. The River Tyne estuary has historically been subjected to a variety of human activity (industrial use, recreational activity, etc.) and is often a very restrained system in terms of structural changes to frontages and banks. In such a pressured environment, it is even more important that those fragments of semi-natural habitat which remain are protected and managed appropriately.

The River Tyne estuary has small areas of mudflats and saltmarsh at Northumberland Dock and Willington Gut in North Tyneside but the majority of this type of habitat is found within Newcastle at sites such as Newburn Riverside and Lemington Gut.

Areas of derelict and unmanaged land and urban greenspace along the estuary are also important for species such as dingy skipper butterfly and for locally rare plants such as yellow wort and blue fleabane.

The river itself is home to salmon and trout as well as common seals, with grey seals and porpoises foraging along the coast. Otters and kingfisher also regularly use the River Tyne and its connecting tributaries, particularly around Lemington Gut in Newcastle.

Current Status

North Tyneside has 8km of open coastline. The extent of some habitats varies daily according to the tides, but recent surveys indicate that there are over 20ha of intertidal mud, sand and rocky foreshore habitats, 9.9ha of fragmentary sand dune habitats, 3ha of maritime cliff and 0.1ha of coastal grassland.

The Tyne estuary is the largest and most significant watercourse in Newcastle. The tidal limit is at Wylam and runs for approximately 32km before reaching the sea at Tynemouth. In Newcastle there are also a number of other smaller streams with tidal reaches that flow into the Tyne estuary, including the River Ouseburn and Lemington Gut.

Issues of Concern

- **Coastal Squeeze**
  This is the process by which coastal habitats are 'squeezed' into very narrow strips by the processes of coastal erosion on the seaward side and intensive agricultural, recreational or development uses on the landward side. Over a period of time this can lead to the extinction of the original coastal habitat, such as maritime grassland. Examples of coastal erosion can be seen at St. Mary's Island in Whitley Bay, Brown's Point at Cullercoats and at Tynemouth Long Sands.

- **Recreational pressure**
  Over the years recreational pressure has lead to the erosion and degradation of some coastal habitats in North Tyneside, particularly the coastal sand dune system at Tynemouth Long Sands and cliff top grassland habitat at St. Mary's Island, Whitley Bay. Areas of exposed rocky foreshore are also vulnerable to excessive trampling and human disturbance (e.g. at St Mary's Island) and such activities may lead to reduced feeding and roosting opportunities for important species. Shore based activities and bait digging can also cause disturbance to wildlife.

- **Inappropriate Management**
  Inappropriate management of coastal habitats - this may lead to reduced biodiversity. For example, excessive beach cleaning and the removal of strandline seaweeds from North Tyneside's beaches during the winter would reduce feeding opportunities for important wintering wading birds.

  High Tide Roosts - Birds ability to forage in certain areas will be dependent on their proximity to areas where they can safely roost at high tide, including pier structures, low cliffs and adjacent grasslands. Managing high tide roosts appropriately, including minimising disturbance, is needed to secure the favourable conservation status of the Special Protection Area and SSSI.

- **Water Quality/Pollution**
  Although the water quality of the coast and River Tyne has improved in recent years, pollution and contamination of water and sediments still occur as a result of past and present human activities. Examples include; heavy metal contamination of riverine sediments from urban road run-off and particularly on the River Tyne, there is a significant legacy of TBT (tri-butyltin) sediment contamination from past industrial activities. These can have a cumulative impact by deterioration of water and sediment quality leading to reduced local biodiversity i.e. during river dredging operations.

- **Recreational Disturbance**
  The improvement of water quality in the River Tyne may lead to an increase in water-based recreational activities and consequent disturbance to wildlife; for example there has been an increase in jet-skiing along the North Tyneside coast. Shore based activities and bait digging can also cause disturbance.

- **Industrial and Port Related Development**
  Development pressure associated with the regeneration of the riverside may lead to the reduction of important estuarine and riverside habitats and associated species. For example, extensive sheet piling forms a hard edge of little wildlife value to most of the river frontage with only a few areas of soft riverbank or seaweed covered boulders left to provide feeding and roosting areas for waders.

- **Alien Species**
  The introduction by man or natural colonisation of alien species such as Chinese mitten crabs or invasive plants could result in a decline in natural species and a deterioration of habitats along the estuary.

- **Fisheries**
  The River Tyne estuary is a key migratory route for salmon and feeding sea trout. Although commercial fisheries are primarily outside of this area they could potentially still affect fish populations and salmon runs.

- **Dredging**
  Historical contamination of estuary sediment means that water quality could be affected if contaminants were to become re-mobilised through dredging operations.

- **Lack of Information**
  Lack of access to significant parts of the River Tyne estuary has resulted in limited ecological data being available for the area. This may result in the existence of important habitats and species not being taken into account in decisions relating to new development and subsequent loss or damage.

- **Climate Change**
  Sea level rise will gradually lead to an alteration in the location of intertidal areas (coastal squeeze) and the loss of feeding and roosting habitat for shore birds.

- **Navigational**
  Vessel activity may cause disturbance to wildlife and contribute to pollution which can damage estuary habitat.

ESTUARY AND COASTAL HABITAT TARGETS	TARGET DATE	PARTNERS
Ensure no net loss of mudflats and saltmarsh, other than by natural processes.	Annually	NTC, NCC
Designate River Tyne corridor as Local Wildlife Site.	2015	NTC, NCC,GMBC, STC, NWT

Create two high tide wader roost sites and manage existing roost sites appropriately.	2016	NTC, NCC, NWT, RSPB NTBC
Maintain inventory of WeBS data annually	Ongoing	NTBC, BTO
Investigate funding opportunities for interpretation panels along 4 locations on the River Tyne and the coast.	2015	NTC, NCC, Nexus
Create or restore up to 0.5ha of saltmarsh habitat	2020	NTC, NCC
Develop partnership projects with Big Sea Survey (Dove Marine Laboratory)	2013	Newcastle University, NTC, NHSN
Plant 15000 dune grasses over 3 years to regenerate extended dune system at Tynemouth Longsands.	2012-15	NTC, Newcastle University,
Review current beach cleaning regime on amenity beaches and move to a more wildlife friendly management.	2012	NWT, NE, NTC
Access improvements incorporated along the Tynemouth Longsands coastal strip to aid dune regeneration.	2012	EA, NTC
Investigate potential for a coastal heritage trail along the North Tyneside coastline.	2015	NTC
Create new priority habitats at St Mary's headland	2015	NTC, NWT, NE, RSPB
Promote the importance of coastal waders through publicity material and events	Ongoing	NCC, NTC, NTBC, NWT, RSPB
Minimise disturbance to wintering waders along the coast and estuary by encouraging the zoning of activities and by encouraging sensitive usage	Ongoing	NTC, NCC
Compile a mapped inventory of key coastal and estuarine sites that are used as roosting and feeding sites by coastal waders, including high tide roosts.	2013	NCC, NTC, Local Schools, RSPB, NTBC, allotments & Community

Links to Other Plans

Habitat Action Plans	**Species Action Plans**
Managed Urban Greenspace	Farmland Birds
Buildings & Structures	Otter

Potential Target Delivery Areas

Feature	Site	Local Authority Area
Saltmarsh	Willington Gut	North Tyneside
Saltmarsh	Seaton Sluice	North Tyneside/Blyth
Coastal Grassland	The links/St Mary's Headland	North Tyneside
Wetland	St Mary's Headland	North Tyneside
Scrub	St Mary's Headland	North Tyneside
Sand Dune	Tynemouth Longsands	North Tyneside
High Tide Roosts	Newburn Haugh	Newcastle
High Tide Roosts	St Mary's Wetland	North Tyneside
Mudflats/Saltmarsh	Lemington Gut	Newcastle

3. BROWNFIELD LAND

General Description

This habitat action plan covers a broad range of derelict habitats found in urban areas, sometimes known as brownfield sites. This type of "wasteland" habitat is generally unmanaged land, relatively undisturbed by current human activity and is usually characterised by vegetation in the early stages of succession. Such sites provide a refuge for a wide range of animals and flowering plants and can include the following types of land:-

- **Industrial land** – is often contaminated with heavy metals and the poor soil and lack of nutrients encourage a wide diversity of plants, which supports a range of insects and other wildlife.

- **Railway land** –disused railway land provides important wildlife corridors linking semi-natural habitats. Rough grassland and woodland is often found along railways which attracts a wide range of wildlife.

- **Docklands** – in areas where dockland has been left vacant for some time, species-rich plant and animal communities have had time to develop. Land areas awaiting development are often important wildlife sites, many of which are variable in nature. Such sites are naturally colonised and support pioneer communities.

Many derelict sites are proposed for future development and are likely to provide only temporary environments for wildlife. However, some are interesting enough to have been designated as wildlife sites of varying importance.

Areas of derelict and unmanaged land support a wide range of species including slow worm, dingy skipper butterfly, bats, breeding birds and a range of mammals. Such sites can also support plant species with restricted distributions in Northumberland such as yellow-wort, blue fleabane and bee orchid.

Current Status

Several former colliery sites have been derelict for a number of decades and are now characterised by a range of habitats and species. These sites have been recognised as Local Wildlife Sites (LWS) because of the wildlife they support. In North Tyneside, sites such as Weetslade Colliery, Eccles Colliery and Fenwick Pit Heap have been reclaimed in a way which maintains their wildlife value in the medium to long term, and new country parks have been created. Several other former colliery sites have already been reclaimed in this way and are also recognised as wildlife sites, including the Rising Sun Pit Heap, Backworth Colliery Pit Plantation and Brenkley Colliery Plantation.

Other locally important sites occur on abandoned land at Killingworth Road, Stephenson Railway Grassland and Seaton Burn Allotments.

In Newcastle, key sites include Scotswood Road Paradise, Old Walker Railway Station, Walbottle Brickworks, Percy Pit, Havannah Pit and Shelley Road, which are all designated Local Wildlife Sites. In addition Brenkley Colliery LWS is another brownfield site which has been designated for its interesting grassland and also supports dingy skipper butterfly, a UK priority BAP species. Old derelict railway sites are also very good types of brownfield land for wildlife and in particular the tracks along the Hadrian's Way trail in Newcastle are important for linking many smaller brownfield sites in the City.

Issues of Concern

- Development of derelict and unmanaged sites may lead to the temporary or net loss of wildlife habitats. Disused railway land is often lost through development pressure for housing or employment uses. In dockland areas, disused land has been, and continues to be, developed for commercial or residential use.

- Insensitive reclamation of derelict sites could result in the creation of landscapes of much reduced biodiversity value compared to the naturally-seeded habitats that occur at such sites.

- Continued lack of management of some derelict sites and other unmanaged areas may result in reduced biodiversity value. Inappropriate management can also lead to reduced biodiversity through natural succession.

- Despite any nature conservation value, some derelict and unmanaged sites are eyesores that can attract public abuse such as fly tipping and bonfires, motorbike scrambling and vandalism.

- There is a general lack of understanding of the value of derelict land and its wildlife potential.

- Contamination of derelict sites by invasive species such as Japanese knotweed.

- Current Government policy (Planning Policy Statement 3) encourages the use of previously-developed land for building where appropriate. This potentially makes brownfield land vulnerable to future development.

BROWNFIELD LAND TARGETS	TARGET DATE	PARTNERS
Create habitats along Hadrian's Way to enhance current brownfield land and link up fragmented habitat	2015	NTC, NCC
Create/renew management plans for all brownfield land designated as local wildlife sites.	2015	NTC, NCC, NWT

Identify new brownfield sites that could be designated as local wildlife sites	Ongoing	NTC, NCC, NWT
Undertake one brownfield site management project annually	2012-2021	NTC, NCC, NWT
Identify key sites that could be targeted for priority species	2013	NTC, NCC

Links to Other Plans

Habitat Action Plans	**Species Action Plans**
Transport corridors	Bats
Managed Urban Greenspace	Dingy Skipper
Estuary and Coastal	Urban Birds
Buildings & Structures	Slow Worm
Scrub, Shrub & Hedgerow	Bumblebees
Lowland Grassland	Hedgehog

Potential Target Delivery Areas

Feature	**Site**	**Local Authority Area**
Grassland	Albert Edward Dock	North Tyneside
Grassland & Wetlands	Silverlink Waggonway	North Tyneside
Grassland	Newburn Haugh	Newcastle
Grassland	Hadrian's Way	Newcastle/North Tyneside
Grassland/Scrub	Paradise	Newcastle

4. TRANSPORT CORRIDORS

General Description

Transport corridors are linear strips of land adjacent to roads, railway lines, metrolines, disused waggonways and cyclepaths. The mosaic of grassland, scrub, shelter belt and tall herb habitats usually associated with these transport corridors provide important refugia and wildlife links, facilitating the dispersal of plants and animals.

Roadside verges in particular, can be floristically diverse and often constitute some of the largest areas of semi-improved grassland habitat as a result of a lack of exposure to fertilizers and pesticides. With intensive farming and development becoming the dominant land use in recent years, road verges have become increasingly valuable habitat for wildlife and are important wildlife corridors for the movement of many animals.

Metrolines provide important links for wildlife movement between city, coast and countryside, via the network of woodland, shrub and grassland habitat along its edges. In addition, disused waggonways which once transported coal to the river, now function as important areas for species such as great crested newt, butterflies such as dingy skipper and a range of breeding birds.

Current Status

Major highways with mature semi-natural habitats include the A1 Western Bypass and A19 Trunk roads, the A189 Benton Lane, the A1058 Coast Road, the A191 Whitley Road, the A1056 Sandy Lane and Scotswood Road in Newcastle. Active railways, namely the Metro Line, the Intercity East Coast Mainline and the Blyth & Tyne Railway, are also characterised by similar habitats. However, it is the extensive network of disused waggonways (many now used as cycleways and bridleways) which are characterised by the oldest and most diverse assemblage of verge (and former trackbed) habitats.

Hadrian's Way, in particular, is an important national trail providing walking, cycling and horse riding opportunities, whilst also acting as an important wildlife corridor.

Waggonways in particular, are important habitats for encouraging species such as bats which like to forage along these areas for insects. The mosaic of mature scrub and grassland habitats associated with some transport corridors also provide breeding, feeding and dispersal opportunities for a range of bird species such as song thrush, barn owl, bullfinch and linnet and provide vital conduits for those groups particularly dependent upon continuity of habitat (e.g. small mammals, invertebrates, etc). In addition metrolines in the area have been found to provide important habitat for the movement of slow worms, a reptile protected under the Wildlife and Countryside Act 1981 (as amended).

Issues of Concern

- Direct loss of linear features to urban-industrial development, derelict land reclamation schemes and agricultural activities. In addition, simplified landscaping schemes associated with transport corridors sometimes fail to maximise the potential benefits to wildlife.

- Linear features are often subject to disruption by road improvement schemes as well as statutory services, as they provide continuous strips of land suitable for laying underground pipelines, cables, etc.

- Many linear features are subject to insensitive management or lack of management. For example, sections of scrub, hedgerow and tall grass are insensitively cleared, strimmed or cut (sometimes during the bird breeding season), leading to reduced wildlife value, whilst species-rich grassland communities undergo succession to other habitats if they receive no management or over management through grass cutting.

- Due to their continuous nature linear habitats traverse all of the urban-industrial areas of both Newcastle and North Tyneside and are particularly vulnerable to vandalism, accumulations of litter and fly tipping.

- A number of priority species are killed on busy roads every year, as there are few or no opportunities for their safe crossing.

- Pollution of wetland habitats adjacent to roads from salt and petrochemical runoff can also have a detrimental effect.

Objectives & Targets

TRANSPORT CORRIDORS TARGETS	TARGET DATE	PARTNERS
Produce roadside verge management strategy in partnership with Grounds Maintenance teams	2015	NTC, NCC
Produce best practice guidelines for rail side land management to minimise disturbance to wildlife	2014	NTC, NCC Nexus
Undertake habitat creation/management projects on 5 sites along metroline	2014	NTC, NCC, Nexus
Ensure the installation of appropriate wildlife warning signs or wildlife underpasses\bridges in areas where road kills are considered to be negatively impacting on priority species.	Ongoing	NTC, NCC
Incorporate wildlife tunnels or other features in development schemes where road kills are an issue.	Ongoing	NTC, NCC
Include oil/silt traps in the design of new road schemes adjacent to sensitive wetland sites & watercourses	Ongoing	NTC, NCC

Links to Other Plans

Habitat Action Plans	Species Action Plans
Rivers & Watercourses	Bats
Managed Urban Greenspace	Dingy Skipper
Brownfield Land	Urban Birds
Scrub, Shrub & Hedgerow	Slow Worm
Lowland Grassland	Bumblebees
Native Woodland	Hedgehog
	Amphibians

Potential Target Delivery Areas

Feature	Site	Local Authority Area
Grassland & Wetlands	Waggonway Network	North Tyneside
Grassland	Hadrian's Way	Newcastle/North Tyneside
Grassland/Woodland Mosaic	Nexus Metroline	North Tyneside/ Newcastle
Hibernacula	A1 & A19	North Tyneside/Newcastle
Grassland & woodland	Scotswood Road embankments	Newcastle

5. OPEN WATER AND WETLAND

General Description

This action plan covers all open bodies of freshwater (natural ponds, mining subsidence ponds and pools, surface water balancing ponds, recreation and amenity lakes, etc.) and their associated marginal habitat (mosaics of reedmace, reeds, rushes, sedges, tall herbs and willows). Standing open water is found in a variety of places, types and sizes. Some are formed naturally, while others are man-made or influenced by man i.e. subsidence wetlands. Ponds are normally defined by an area of up to 2 hectares; anything larger is generally classed as a lake.

Man-made ponds and lakes include reservoirs, amenity ponds and those created by mining subsidence and flooding of gravel pits etc. Natural waterbodies are those created by glacial action, natural subsidence or river activity. All waterbodies are classified according to their nutrient status. Nutrient rich or 'eutrophic' waterbodies are the main type found in lowland areas, as a result of inputs from agricultural fertilisers and sewage input. Those with intermediate nutrient levels are termed 'mesotrophic' and those which receive very few nutrients are termed 'oligotrophic'.

Ponds provide habitat for a diverse range of species including marginal and submerged plants, birds, aquatic invertebrates, amphibians and mammals. The diversity of these habitats is dependent upon pond type, location and pond management.

Reedbed is a wetland habitat dominated by large areas of common reed. A number of other species occur within the reed stand but a significantly lower cover. Reedbed occurs in association with open water and watercourses. The water table is at or above ground level for most of the year. Reed beds are particularly important for the breeding birds that they support. However reedbeds are a successional habitat and if they are not cut or managed on a rotational basis their value for wildlife decreases over time.

Fens are permanently waterlogged wetland habitats, which can be fed by either ground water, surface water run-off or rainfall. They are classed as 'poor' where the water is derived from base-poor rock such as sandstone, or 'rich' where they are fed by mineral-enriched calcareous waters (pH 5 or more). Poor fens occur mainly in the uplands and are characterized by short vegetation with high levels of *Sphagnum spp*, whereas rich fens are mainly confined to the lowlands and are characterized by an open vegetation structure of mosses and species-rich grassland. Fen habitats support a diversity of plant and animal communities including a high number of invertebrates, such as dragonflies and aquatic beetles as well as a range of breeding birds.

Lowland raised mire are characteristically raised mounds of peat above the local water table, fed only by rainfall. Associated species are mainly mosses

especially *Sphagnum* species with associated plants such as cotton grass *Eriophorum* species. Drier areas may have vegetation dominated by heather *Calluna vulgaris.*

A number of protected animals, including bats, otter, water vole, water shrew, kingfisher, black-necked grebe, bittern and great crested newt are known to breed or feed in the vicinity of open water and swamp habitats. Reed bunting is a national priority species which breeds in these habitats alongside a variety of other regionally declining or uncommon waterfowl and wading birds such as little grebe, shoveler, pochard, redshank, snipe and lapwing as well as amphibians. Common terns use artificial nest sites on larger wetland when provided. Ponds are also important sites for a range of wetland plants (yellow iris, water mint, brooklime, marsh marigold), dragonflies and damselflies and their aquatic invertebrate populations.

Current Status

Ponds, lakes and marginal habitat are widespread throughout the UK, but ponds have suffered a huge decline in numbers (greater than 75%) over the past 100 years as a result of agricultural intensification, pollution and poor or inappropriate management. This is something of concern because of their importance to wildlife such as otter, water vole and great crested newt.

There are in excess of 150 nutrient-rich (eutrophic) waterbodies and associated marginal habitats in North Tyneside and Newcastle. These range from very small pools of less than ten square metres to large subsidence ponds and amenity lakes covering several hectares.

Within Newcastle, reedbeds are currently restricted to Gosforth Park Nature Reserve, Newcastle Great Park and in North Tyneside they occur at Weetslade Colliery and Killingworth Lake.

Fen habitat is restricted to Sacred Heart Fen in North Tyneside and Dinnington Fen in Newcastle. Prestwick Carr in Newcastle is the only example of lowland raised mire in South-east Northumberland. However it has dried out considerably over the last 70 years allowing the invasion of woody species. The raised mire is in poor condition as a result.

Issues of Concern

- Lack of knowledge of the exact distribution of all ponds and the quality of those that are known.
- Lack of knowledge of the whereabouts of protected species in ponds and lakes.
- Lack of management can lead to a proliferation of invasive species, to the detriment of other species.

- Open water habitat can disappear over a period of time through silting, build up of dead plant matter and overgrowth of marginal vegetation (natural succession).

- Over-clearance of ponds is also a problem, resulting in loss of vegetation, which subsequently reduces the diversity and quality of the pond.

- Several ponds and lakes are used for active and passive leisure and recreation activities, such as windsurfing and angling with occasional shooting on private waterbodies. People are naturally attracted to water and many ponds and lakes are visited by walkers and dogs. Insufficient control of these activities can cause excessive disturbance to wildlife, particularly breeding birds and mammals.

- Pollution from urban, industrial and agricultural runoff can be particularly harmful to aquatic animal and plants communities in waterbodies. For example, agricultural fertilisers cause excessive nutrient enrichment (eutrophication) of waterbodies, leading to algal blooms and reduced biodiversity. In addition, agricultural pesticides can be toxic to a range of aquatic organisms.

- Several ponds have been invaded by non-native species (probably introduced deliberately or accidentally from garden ponds and aquaria) such as *Crassula helmsii* and *Elodea canadensis*. These tend to outcompete native species of aquatic plants and can seriously affect the diversity and abundance of aquatic life.

- Direct loss of ponds and marginal habitats to development and infilling by agricultural activities.

- Fragmentation effects caused by the isolation of ponds from other ponds or from terrestrial habitat.

- Fly tipping/rubbish dumping and infilling of ponds with waste.

- Restriction in the creation of ponds/open water habitat within a 13km boundary of Newcastle airport due to bird strike risks.

OPEN WATER AND WETLAND TARGETS	TARGET DATE	PARTNERS
Undertake pond mapping audit to help identify key sites for further survey work.	2014	NTC, NCC. NWT, NHSN
Create 20 new ponds of conservation value in appropriate areas with emphasis on providing stepping stones between existing ponds of wildlife value.	2021	NTC, NCC, NWT, NE, EA, NWL, NHSN
Undertake management that will enhance the biodiversity value of 20 ponds.	2021	NTC, NCC, NWT, NE,

		EA, NWL, NHSN
Produce leaflet to raise awareness of wetland issues	2014	NTC, NCC
Assess the status of invasive, non-native species in ponds and lakes and implement a strategy for their eradication or control.	2015	NTC, NCC
Investigate Installation of common tern rafts in appropriate locations	2015	NTC, NCC, NWT, RSPB,
Reedbed	**TARGET DATE**	**PARTNERS**
Identify and map the location and extent of reedbed habitat in Newcastle & North Tyneside	2012	NTC, NCC
Create1ha of new reedbed habitat	2015	NTC, NCC, EA, NWT, NWL
Maintain and improve reedbeds in Gosforth Park and Weetslade Country Park	2020	NTC, NCC, NHSN, NWT
Fen & Mire	**TARGET DATE**	**PARTNERS**
Improve the condition of lowland raised mire at Prestwick Carr	2015	NCC, NWT, NE
Improve the condition and increase extent of Sacred Heart Fen and Dinnington Road Fen	2015	NCC, NWT, NE
General Open Water and Wetland		
Record rare plant species listed by the Botanical Society of British Isles www.bsbi.org.uk.	Ongoing	NCC, NTC, NWT, NHSN

Links to Other Plans

Habitat Action Plans	**Species Action Plans**
Rivers & Watercourses	Bats
Urban Managed Greenspace	Water vole
Brownfield Land	Farmland Birds
Scrub, Shrub & Hedgerow	Otter
Lowland Grassland	Amphibians
Lowland Farmland	

Potential Target Delivery Areas

Feature	Site	Local Authority Area
Pond Creation	Silverlink Waggonway	North Tyneside
Pond Restoration	Weetslade Country Park	North Tyneside
Pond Creation	Golf Courses	North Tyneside/Newcastle
Wetland Creation	Backworth Woods/Backworth	North Tyneside
Pond Creation	West Moor	North Tyneside
Fen & Pond Creation/Restoration	Sacred Heart Fen	North Tyneside
Wetland Creation	Palmersville	North Tyneside
Wetland Improvements	Rising Sun Country Park & Silverlink Biodiversity Park	North Tyneside
Wetland Creation	Wellfield	North Tyneside
Wetland Creation	Dickey's Holm Farm	North Tyneside
Wetland Creation	St Mary's Headland	North Tyneside
Wetland Improvements	Burradon Pond	North Tyneside
Pond Creation	Wallbottle Brickwork's	Newcastle
Fen & Mire Creation/Restoration	Prestwick Carr	Newcastle
Pond Improvements	Brenkley Colliery	Newcastle
Pond Improvements	Ponds near airport	Newcastle
Pond Creation	Newcastle Great Park	Newcastle
Wetland Improvements	Moorey Spot Farm	Newcastle
Pond Creation	Big Waters	Newcastle
Wetland Creation	Gosforth Park	Newcastle
Pond Improvements	Sacred Heart Pond	Newcastle
Pond Restoration	Little Benton	Newcastle
Wetland Creation and Improvements	Gosforth Park Nature Reserve	Newcastle

6. RIVERS & WATERCOURSES

General Description

This action plan covers all streams and watercourses characterised by flowing freshwater, as well as their associated marginal and bankside vegetation.

In their natural state, rivers and streams are dynamic systems which are continually modifying their form. Many small streams combine to form larger rivers that flow from upland to lowland areas and eventually find their way to the sea. Streams and watercourses are important for biodiversity at a national and local scale, as they hold a mosaic of habitats supporting aquatic and terrestrial wildlife. These include riffles and pools, which support a rich array of aquatic invertebrates, as well as marginal and bankside vegetation rich in wildflowers and terrestrial fauna.

In an urban context, they contain areas of semi-natural habitat and are extremely important in functioning as links and corridors for the movement of wildlife.

Most rivers in the UK have been physically modified by man at some time, for instance by flood defence measures or flow regulation. This alters the patterns of sediment transport and nutrient exchange in river systems. They have additional functions in an urban environment, which include conveyance of flood water, discharges from roads, industry and sewage treatment works, provision of water for agriculture and industrial use and also as a recreational resource. As a result, these functions need to be managed in association with their nature conservation interest, in order to protect and enhance the biodiversity resource.

Although this plan is concerned with the channel and its associated habitats, it is also important that the impact of surrounding land use on watercourses is considered.

Key species associated with watercourses include bats, as they provide important insect-rich flyways for these protected species. Otters use watercourses such as the Seaton Burn and Ouseburn whilst the nationally declining water vole occurs on a small number of watercourses, but has become increasingly isolated due to habitat fragmentation. In recent years, kingfisher have been recorded along the Seaton Burn and the Ouseburn. In addition, marginal vegetation along most watercourses provides suitable feeding and nesting habitats, as well as dispersal corridors for priority birds such as reed bunting, song thrush, linnet and bullfinch.

Current Status

There are a number of freshwater streams and watercourses in Newcastle and North Tyneside. These vary considerably in length, width, water quality

and associated marginal vegetation. North Tyneside's watercourses include; Sandy's Letch, the Seaton Burn and the Brierdene and Duchess Dene Burns. These generally traverse the open countryside areas to the north of the borough in an easterly direction into the North Sea. The remaining watercourses are effectively tributaries of the River Tyne and generally flow southwards through urban areas of the borough.

The Ouseburn is the largest and most significant river in Newcastle (the River Tyne which is considered under Estuary plan). There are a number of smaller watercourses including the Reigh Burn, Dewley/New Burn, Sugley Dene, Hartley Burn, Whitecroft Burn and the Letch.

Issues of Concern

- Pollution from point and non-point sources such as agricultural chemicals, storm sewerage overflows, domestic washing detergents, industrial effluents, oil and salt from roads and refuse tipping. These all occur either singly or as a combination, leading to nutrient enrichment and deterioration in water quality which adversely affects plant and animal life as well as impacting on human health and amenity.

- Water abstraction (groundwater and river) which results in reduced flow and a reduced dilution of pollutants.

- Land drainage and flood defence structures, to maintain the shape of stream and river courses (protection, repair and maintenance), lead to artificial habitats with an associated reduction in species diversity.

- Introduction or colonisation of invasive species, such as mink, can have a devastating effect on populations of priority species, such as water vole, along watercourses. Other problem invasive species include giant hogweed, Japanese knotweed and Himalayan balsam, which are extremely difficult to control.

- Inappropriate bankside management can reduce the biological and structural diversity of marginal vegetation along watercourses and reduce the opportunities for the survival and dispersal of priority species. Typical examples include excessive cutting of marginal or bankside vegetation, including grass cutting, and overgrazing of streamsides by livestock.

- Disturbance to streamside habitats due to inappropriately located developments or, in some cases, the wholesale loss of sections of watercourses and marginal habitats to underground culverts associated with development.

RIVER & WATERCOURSE TARGETS	TARGET DATE	PARTNERS
Raise awareness of non-native invasive species along watercourses	Ongoing	NTC, NCC

and encourage their control.		EA, NWT, NWL
Map non-native invasive species along 10km of watercourse in Newcastle and North Tyneside	2021	NTC, NCC,
Promote the maintenance of riparian buffer strips with a minimum width of 2m along watercourses to improve habitat for wildlife	Ongoing	NTC, NCC, NWT, NE, EA, NWL
Ensure that any developments affecting streamside habitats and associated wildlife are not permitted without appropriate and enforceable mitigation or compensation. In addition, no development should take place within 5m of any watercourse.	Ongoing	NTC, NCC EA, NWT
Deliver riparian improvements that will benefit wildlife along a minimum of 5km of watercourse.	2021	NTC, NCC NWT, EA, NWL, TRT, NHSN
Incorporation of sustainable drainage systems on appropriate schemes to aid in the minimisation of high flows and pollution from surface water.	Ongoing	NTC, NCC, NWT, EA
Ensure there is no net loss of watercourses to culverting through planning or engineering works.	Ongoing	NTC, NCC, EA

Links to Other Plans

Habitat Action Plans	**Species Action Plans**
Native Woodland	Bats
Urban Managed Greenspace	Water vole
Scrub, Shrub & Hedgerow	Farmland Birds
Lowland Grassland	Otter
Lowland Farmland	Amphibians
Open Water & Wetland	

Potential Target Delivery Area

Feature	Site	Local Authority Area
Stream de-culverting	Balliol/Longbenton	North Tyneside
Stream improvements	Wallsend Burn	North Tyneside
Pond Creation	Golf Courses	North Tyneside/Newcastle
Stream Improvements	West Moor	North Tyneside
Stream Improvements	Wellfield	North Tyneside
Stream Improvements	Palmersville	North Tyneside
Stream Improvements	Rising Sun/Hadrian Pond	North Tyneside
Stream Improvements	Dickey's Holm Farm	North Tyneside
Stream Improvements	Whitecroft Burn, Gosforth Park	Newcastle
Watercourse Improvements	Brierdene Golf Course	North Tyneside
Wetland Improvements	Rising Sun Country Park & Silverlink Biodiversity Park	North Tyneside
Drainage Improvements	Denton Dene	Newcastle
Wetland Improvements	Prestwick Carr	Newcastle
Watercourse Improvements	Gosforth Park Golf Course	Newcastle
Watercourse Improvements	Ouseburn	Newcastle
Watercourse Improvements	Brush Technology/ Throckley	Newcastle

7. MANAGED URBAN GREENSPACE

General Description

This action plan covers all publically and privately owned areas of managed greenspace in an urban area and includes:
(i) Public cemeteries, churchyards, parks, plantations, shelterbelts, shrubberies, allotments, street trees, open spaces, golf courses and playing fields which are maintained by the local authority.
(ii) Private gardens, golf courses, allotments, industrial grounds and playing fields which are maintained by individuals or private contractors.

These areas have been broken down into three major categories of managed greenspace to help focus conservation interest:

- **Parks & Amenity Grassland**
  Include large areas that are managed for public use (parks, golf courses, sports fields, landscaped industrial sites and open space). Amenity grassland involves intensive management with a regime of cutting and fertiliser application, herbicide use, watering and drainage. Some sites may contain trees, shrubs and flower borders and associated species found at such sites may include song thrush, blackbirds, and hedgehogs. Trees and scrub provide valuable habitat for a range of birds, small mammals, bats and invertebrates.

- **Gardens & Allotments**
  These are managed for personal enjoyment and often contain a variety of valuable habitats including garden ponds, wildflower borders and long grass and shrubs. Such features attract a diverse range of wildlife including butterflies, bats, amphibians, hedgehogs and a range of birds.

- **Churchyards & Cemeteries**
  Churchyards and cemeteries are potential havens for biodiversity and often contain large trees, unimproved grassland areas untouched by fertilisers, pesticides or drainage and are relatively undisturbed by people. This often provides a rich diversity of wildlife within the urban environment which ranges from bats and lichens to a variety of birds. Wildlife benefits from the various habitat types provided by both informal and formal grassland areas, gravestones, trees and shrubs and deadwood.

Current Status

There are a large variety of managed greenspaces in Newcastle and North Tyneside, ranging from small private gardens to extensive public open spaces and parks. These all vary in terms of recreational use, visual appeal and wildlife value. Areas such as sports fields and amenity grassland have little conservation value. Gardens and allotments, however, contribute substantially to greenspace in terms of area and offer increasing scope for enhancing

biodiversity opportunities. Areas of managed greenspace characterised by significant tree cover provide suitable habitat for a number of species including pipistrelle bats and noctule bat, the latter possibly roosting in mature trees. National priority species also occurring in these areas include song thrush, linnet, bullfinch, tree sparrow and spotted flycatcher. Areas of managed open grassland habitat also provide feeding opportunities for some of these species as well as other priority species such as skylark, grey partridge and brown hare.

Issues of Concern

Gardens & Allotments

- Demand for development land leading to loss of allotments
- Use of pesticides and fertilisers which reduces diversity and insect populations
- Inappropriate management (i.e. excessive tidiness, removing habitat and food for some species)
- Predation by domestic cats
- Encouraging the spread of non-native species (e.g. feeding grey squirrels, garden escapes, etc)

Churchyards & Cemeteries

- Conflict between managing these areas for biodiversity and the 'neat and tidy' approach
- Poor public perception of the biodiversity importance of churchyards and cemeteries
- Lack of understanding of appropriate management of these areas

Parks and Amenity Grassland

- The differing needs of management for biodiversity with amenity grassland and open space demands can often conflict (e.g. mowing regimes)
- Increasing isolation of such sites from other habitats, particularly within wildlife corridors
- A variety of organisations own or manage these areas, particularly open spaces and shelterbelts, making it difficult to agree management policies for them
- Use of non-native/local species in planting schemes
- Lack of understanding of the wildlife value of these habitats
- Recreational pressure which may disturb sites and create litter problems
- Lack of nest sites as a result of deadwood removal, including for tawny owl

MANAGED URBAN GREENSPACE TARGETS	TARGET DATE	PARTNERS
Implement targets in Council's Allotment Strategies	Annually	NCC, NTC
Raise awareness about the importance of biodiversity to all allotment sites and encourage wildlife friendly gardening.	2014	NTC, NCC, NWT
Establish a category for wildlife friendly gardening in the annual allotment competition	2012	NTC, NCC,
2 allotment sites per year to incorporate areas of native hedging or wildlife habitat.	Annually	NCC, NTC, NWT
Increase allotment entries into North Tyneside in Bloom (NTIB) competition.	Annually	NTC
Parks & Gardens Targets	**TARGET DATE**	**PARTNERS**
Encourage wildlife friendly gardening through media articles, websites, events and printed material.	Ongoing	NTC, NCC NWT, NHSN
Liaise with Eco/Enviro Schools to establish 3 wildlife projects with schools annually.	Annually	NTC, NCC, NWT, NHSN
Liaise with local businesses to establish 1 wildlife project annually	Annually	NTC, NCC, NWT
Produce 'Business & Biodiversity' pack to promote wildlife enhancements on business premises	2013	NCC, NTC,NWT
Liaise with Council departments to promote wildlife friendly gardening in parks and create at least one wildlife area annually.	Annually	NCC, NTC
Promote the use of native species in all planting schemes.	Ongoing	NCC, NTC
Raise awareness of the importance of Parks and gardens and encourage more sympathetic management	Ongoing	NCC, NTC
Promote and enhance biodiversity in all park regeneration schemes and ensure that protected species issues are taken into consideration.	Ongoing	NCC, NTC
Native wildlife is considered in the landscaping of open spaces associated with new developments as part of the planning process.	Ongoing	NCC, NTC, NWT, NHSN
Churchyards & Cemeteries Targets	**TARGET DATE**	**PARTNERS**
Manage churchyards and cemeteries in a way that will benefit wildlife.	Annually	NTC, NCC NWT
Produce promotional material aimed at raising awareness of the biodiversity value of churchyards and cemeteries.	2012	NTC, NCC
Establish 2 wildlife projects within churchyards or cemeteries.	2013	NTC, NCC, NWT

Links to Other Plans

Habitat Action Plans	Species Action Plans
Rivers & Watercourses	Bats

Transport Corridors	Dingy Skipper
Buildings and Structures	Urban Birds
Scrub, Shrub & Hedgerow	Otter
Lowland Grassland	Amphibians
Open Water & Wetland	Hedgehog
Native Woodland	Slow Worm
	Bumblebee

Potential Target Delivery Area

Feature	Site	Local Authority Area
Park Habitats (General)	Northumberland Park, Wallsend parks, Killingworth Lake, Tynemouth Park, Churchill Park, St Lawrence's Park, Leazes Park, Exhibition Park, Elswick Park, Town Moor	North Tyneside & Newcastle
Cemetery Habitats (General)	Preston; Earsdon, Whitley Bay, Killingworth, Benton, Jesmond Old, New Reedsmouth cemetery, Elswick, South Gosforth and St James'	North Tyneside & Newcastle
Allotment Habitats (General)	Springfield Allotments, Moorside allotment, New Reedsmouth allotments.	North Tyneside & Newcastle

8. NATIVE WOODLAND

General Description

Woodland comprises of broad-leaved, mixed and conifer woodland which is either semi-natural or planted. Broad-leaved woodlands can be sub-divided into ancient semi-natural woodland (ASNW) ancient replanted, plantation and semi-natural woodland, depending on their origins.

ASNW is on the whole more valuable and important because it is woodland that has occupied the site, normally with minimal human change to the tree species composition, since at least 1600AD. A rich natural ground flora has developed in these woodlands with indicator plants such as dog's mercury, wild garlic, wood anemone, native bluebell, primrose and wood sorrel. A rich invertebrate fauna is also associated with these types of woodlands. It is the closest we have to natural woodland in the UK and is an irreplaceable part of our heritage.

Recent woodlands are those woods, which are less than 400 years old. They fall into two categories: recent semi-natural woodlands, which may have developed through natural colonisation of open habitats; and recent plantation woodlands, which have been planted. The latter make up the majority of our woodlands.

Trees play a vital role in the urban ecosystem, providing many benefits for wildlife. Birds, mammals and invertebrates use trees and scrub as roosts, breeding sites and feeding areas and deadwood associated with these habitats is valuable for a variety of organisms such as bacteria, lichens and fungi which help decompose the deadwood and increase accessibility for other animals.

Current Status

There is one area of ancient semi-natural woodland in North Tyneside which occurs at Holywell Dene and covers an area of 7.86 hectares. This site is designated as a Local Wildlife Site (LWS) as well as a Local Nature Reserve (LNR). In Newcastle there are four semi-natural wooded denes at Jesmond, Denton, Sugley, and Walbottle and a small area of ASNW in Gosforth Park Nature Reserve. This amounts to a total area of 52 hectares and these are all designated Local Wildlife Sites.

The original ancient woodland canopy of the above ASNW sites consisted of oak, ash and elm, but these species are now less abundant than the present-day dominants, namely beech and sycamore. The beech was planted on the upper slopes of several of the denes several centuries ago, whilst the sycamore has replaced the other canopy species on the lower slopes in more recent times. The ground flora consists of species typical of ancient oak-ash-elm woodlands in the north east of England including bluebell, ramsons, sanicle, moschatel and goldilocks buttercup.

Other woodland sites that consist of mixed and broadleaved trees provide a rich habitat for numerous species and in combination with other habitats, increase the biodiversity interest of the area. Plantation woodland also has environmental amenity value and provides important habitat for a range of species including birds, bats, small mammals and a range of invertebrates. Examples of woodland sites in Newcastle and North Tyneside are listed below:-

North Tyneside	**Newcastle**
Backworth Colliery Pit Plantation	Gosforth Park
Backworth Woods	Benwell Dene
Brenkley Colliery Plantation	Fox Cover Wood
Brierdene	Foxcovert Wood
Marden Quarry	Newbiggin Dene
Killingworth Waggonway Plantation	Fencerhill Woods
Wallsend Parks	Dentsmire/Salters' Bridge Wood
Seaton Burn House Woods	La Sagesse Wood
Swallow Pond Plantation	Three Hills Picnic Site
Wallsend Dene	Woolsington Woods
Northumberland Park	Wellfield Wood
Silverlink Biodiversity Park	Reigh Burn/Engine Plantation
	Black Road Plantation
	Matts Bank Plantation

Ancient woodland, in particular, supports a diverse range of plants and animals many of which are found principally in these woods. Pipistrelle and noctule bats have been recorded feeding in woodlands at dusk and these habitats also provide roost sites for these species. Otters and kingfishers have been recorded along the watercourses that flow through Holywell Dene and Jesmond Dene. Gosforth Park and Woolsington Woods are also key woodland sites in Newcastle for red squirrel.

Issues of Concern

- Direct land take losses for development threaten woodland sites, as well as indirect damage from development adjacent to woodland sites which can lead to isolation of these habitats.

- Overuse of amenity planting as opposed to native planting on development and ex-industrial sites.

- Unsympathetic management, such as overgrazing, planting of non-native species, or a lack of management can lead to deterioration of site quality.

- Dutch Elm Disease has had a significant effect on Elm populations and altered the structure and composition of many woodlands.

- Fragmentation and edge effects occur as a result of development and farming practices contributing to the isolation of woodland sites.
- Invasion by non-native or highly competitive species.
- Lack of standing dead wood.

NATIVE WOODLAND TARGETS	TARGET DATE	PARTNERS
Maintain current extent of ancient semi-natural woodland.	Ongoing	NCC, NTC
Maintain current extent of native woodland. Where development may lead to loss of woodland, ensure adequate mitigation or compensation.	Ongoing	NTC, NCC
Ensure where possible, that all areas of semi-natural woodlands are managed in a way that will maintain or restore their nature conservation interest.	2021	NTC, NCC, NHSN
Create native woodland on 10 new sites.	2015	NTC, NCC, NWT, NE
Increase linkage between fragmented woodland sites by the creation of green corridors on 4 sites.	2021	NTC, NCC NWT, FC
Promote the value of native woodland to the public by undertaking 4 events per year.	Annually.	NTC, NCC, Community Groups
Manage/ replant 3 sites of amenity woodland to native woodland.	2016	NTC, NCC, NWT, Community Groups

Links to Other Plans

Habitat Action Plans	Species Action Plans
Rivers & Watercourses	Bats
Transport Corridors	Red Squirrel
Brownfield Land	Urban Birds
Scrub, Shrub & Hedgerow	Hedgehog

Potential Target Delivery Area

Feature	Site	Local Authority Area
Native Woodland Planting	Gosforth-Cramlington Wildlife Corridor	North Tyneside & Newcastle
Woodland planting	Golf Courses	North Tyneside & Newcastle
Woodland Creation	West Moor/Wellfield	North Tyneside
Woodland Corridor Improvements	Burradon to High Farm	North Tyneside
Woodland Improvement	Backworth Woods/Golf Course	North Tyneside
Woodland Creation	Fenwick/Eccles	North Tyneside
Woodland Improvements	Rising Sun/Silverlink	North Tyneside
Woodland Planting	East Holywell	North Tyneside/Northumberland
Tree Planting	Brierdene Golf Course	North Tyneside
Woodland Planting	Newburn Country Park	Newcastle
Woodland Improvements	St John's Wood	Newcastle
Wet Woodland	Prestwick Carr	Newcastle
Woodland Improvements	Newbiggin Dene	Newcastle
Woodland Creation	Newcastle Great Park	Newcastle
Woodland Improvement	Gosforth Park Nature Reserve	Newcastle
Woodland Creation	Town Moor	Newcastle

9. LOWLAND GRASSLAND

General Description

This habitat covers unimproved, semi-improved and improved grasslands occurring in urban and urban fringe areas:-

- **Unimproved grasslands** are those that have escaped agricultural improvement (e.g. artificial fertilisers) and are generally the most species diverse.
- **Semi-improved grasslands** are those that have been subject to some sort of agricultural improvement and whilst not as botanically rich as unimproved grasslands, they are still beneficial for wildlife.
- **Improved grasslands** are those that have been subject to nutrient inputs resulting in poor plant diversity, therefore, less wildlife value.

The characteristic species composition of the above habitats differs with changing soil pH, reflecting the natural influence of the underlying soil and rock. Neutral grasslands occur on soils that are neither strongly acid nor lime-rich; calcareous grasslands occur on lime rich soils and acid grasslands occur on acid soils.

Species rich grasslands generally support a high number of invertebrate species and will be beneficial to species such as feeding bats. However, even grasslands with a lower floristic diversity have some value for wildlife as they support ground nesting birds such as skylark and provide hunting grounds for raptors and hibernation sites for amphibians. A variety of grassland habitats can be found in areas such as woodland clearings, recreational sites, churchyards, brownfield sites and road verges.

Current Status

Most of the valuable grassland types found in North Tyneside and Newcastle consist of semi-improved neutral grassland and most of these are designated as Local Wildlife Sites (LWS). In addition to these, there are a limited number of acidic and calcareous grasslands and these tend to be small isolated sites. Key neutral grassland sites in Newcastle include:- Havannah Nature Reserve, Walker Riverside, Big Waters, Brenkley Meadows and Tyne Riverside Country Park**.** Key sites in North Tyneside include:- Rising Sun Country Park, St Mary's Island Nature Reserve; Weetslade Colliery, Eccles Colliery and Silverlink Biodiversity Park.

Issues of Concern

- Direct land take losses for development threaten grassland sites as well as indirect damage from development adjacent to grassland sites which can lead to isolation of these habitats.

- Inappropriate management, such as overgrazing or addition of fertilizers or a lack of management leading to deterioration of site quality.
- Inappropriate tree planting
- Invasion by non-native or highly competitive species.
- Disturbance and vandalism.
- Drainage issues

LOWLAND GRASSLAND TARGETS	TARGET DATE	PARTNERS
Maintain current extent of lowland meadows.	Ongoing	NTC, NCC
Identify new lowland meadows sites and map on GIS.	2016	NCC, NTC
Designate all qualifying sites as Local Wildlife Sites.	Ongoing	NTC, NCC, LWS Partnership
Secure favourable management on all species rich grasslands within Local Wildlife Sites.	2021	NTC, NCC, NWT, NE
Create or restore 10ha of lowland species rich grassland	2021	NTC, NCC NWT, FC
Review current grass cutting regimes in parks and open space and introduce a change of management at 4 sites that will be beneficial to wildlife.	2013	NCC, NTC

Links to Other Plans

Habitat Action Plans	Species Action Plans
Streams & Watercourses	Bats
Transport Corridors	Dingy Skipper
Urban Managed Greenspace	Urban Birds
Scrub, Shrub & Hedgerow	Amphibians
Brownfield Land	Hedgehog
Open Water & Wetland	Slow Worm
	Bumblebee

Potential Target Delivery Area

Feature	Site	Local Authority Area
Grassland Creation	Golf Courses	North Tyneside & Newcastle
Grassland Restoration	West Moor SLCI	North Tyneside & Newcastle
Grassland Creation	West Moor/Wellfield	North Tyneside
Grassland Improvements	Burradon	North Tyneside
Acid Grassland/Heathland Creation	Killingworth Moor	North Tyneside
Wet Grassland Creation	Backworth Woods	North Tyneside
Grassland Improvements	Rising Sun/Silverlink	North Tyneside
Grassland Creation	Albert Edward Dock	North Tyneside
Grassland Improvements	Knotts Flats Banksides	North Tyneside
Grassland Creation/Improvements	The Links/St Mary's Headland	North Tyneside
Grassland Improvements	Newburn	Newcastle
Grassland Improvements	Newbiggin Dene	Newcastle
Grassland Improvements	Kenton Dene	Newcastle
Grassland Creation	Scotswood Expo Site	Newcastle
Heather Banks	Brunswick Village	Newcastle
Grassland Improvements	Town Moor	Newcastle
Grassland Improvements	Foundry Lane	Newcastle
Grassland Creation/Improvement	Iris Brickfields	Newcastle
Grassland Creation/Improvement	Hadrian's Way	North Tyneside & Newcastle
Grassland Restoration	North Brenkley	Newcastle

10. Scrub, Shrub & Hedgerow

General Description

Scrub
Scrub is generally an ephemeral habitat, part of the process of succession to woodland. It is often found at the edges, or in glades, of mature woodland but more extensive stands are usually associated with neglected bare ground, pasture or meadow. Occasionally scrub is a relic of degraded woodland. In all cases scrub communities are transitional and unstable, though the soil condition can affect the rate of scrub colonisation or succession to woodland.

Hedgerow
A hedgerow is a row of shrubs or bushes, which forms a boundary. This barrier is primarily for stock control but also provides shelter for livestock, crops and wildlife. Hedgerows can act as barriers to erosion, provide a visual amenity, delineate field and property boundaries and provide conduits for wildlife movement. Hedgerows are wildlife-rich habitats and support a number of species of concern within the UK such as linnet, bullfinch, dunnock and song thrush.

Hedgerows can be deliberately planted or represent the remnants of previous field boundaries. In association with the woody plant species there can be a number of associated earth works, consisting of a bank and usually one or two ditches along the line of the hedge and these can sometimes be of historical importance. Grassland margins along with mature trees within the hedge line are also extremely valuable as they form an important reservoir for wildlife in conjunction with the hedgerow.

Shrub
Shrub is used as a term to separate native scrub composed of species such as hawthorn and gorse, and areas of shrub planting using introduced species such as *cotoneaster, pyracantha* etc. Shrubs and shrubberies usually occur in more formal landscaping schemes within built areas, but can still provide a significant contribution to biodiversity for insects and birds in particular.

Current Status
Most of the valuable scrub sites found in North Tyneside and Newcastle are found on brownfield land, along waggonways, road verges and isolated areas of unmanaged open space. In addition to this, there are also many sites where ornamental shrubs are planted for amenity and screening such as areas around Royal Quays in North Tyneside and Newcastle Business Park on the banks of the River Tyne. Although more manicured, these areas still provide biodiversity value for birds and insects. Private gardens and parks are particularly important for scrub, shrub and hedgerow providing some of the largest areas for these types of habitat in urban areas.

Hedgerows provide important links for wildlife in urban areas and are generally found along areas such as waggonways, roadside verges, field boundaries and parks & gardens. Most of these hedgerows are fairly species poor, consisting predominantly of hawthorn; however, there are some species rich hedgerows confined to more rural areas. Hedgerows provide excellent connectivity between sites, especially for species such as bats, butterflies and mammals to move and forage along. They also provide excellent nesting and feeding habitat for a range of birds in urban areas.

Issues of Concern

- Losses of scrub and hedgerow habitat due to land take for development and agricultural intensification.
- Scrub, shrub & hedgerows can accumulate litter, leading to a perception of neglect and pressure for removal.
- Dense scrub can be perceived as a safety risk, leading to its removal and omission from new landscaping schemes.
- Scrub, shrub and hedgerows are not always managed at appropriate times of year, which leads to loss of winter berries, spring flowers and disturbance of nesting birds.
- Neglect or poor management of hedgerows (no cutting or laying) leads to them changing into lines of trees and the development of gaps
- Invasion by non-native species such as Japanese Knotweed can eventually shade out and dominate valuable shrub and scrub habitat.
- The use of herbicides, pesticides and fertilisers up to the base of hedges
- Unmanaged scrub will eventually lead to woodland succession and the loss of this valuable habitat.

SCRUB, SHRUB & HEDGEROW TARGETS	TARGET DATE	PARTNERS
Create 10 ha of new native scrub/ shrub	2021	NCC, NTC, NWT
Create 5000 linear metres of native species rich hedgerow.	2021	NTC, NCC, NWT, NE

Improve 2000 linear metres of species poor hedgerow	2021	NTC, NCC, NWT, NHSN, NE
Retain existing scrub and hedgerow on development schemes and maximise opportunities for native planting in landscaping schemes	ongoing	NTC, NCC,
Ensure that management of scrub and hedgerow are undertaken at the appropriate times of year to maximise opportunities for wildlife and minimise disturbance.	Ongoing	NTC, NCC

Links to Other Plans

Habitat Action Plans	**Species Action Plans**
Streams & Watercourses	Bats
Transport Corridors	Farmland Birds
Urban Managed Greenspace	Urban Birds
Native Woodland	Amphibians
Brownfield Land	Hedgehog
Open Water & Wetland	Slow Worm
Lowland Grassland	Bumblebee
	Otter

Potential Target Delivery Area

Feature	Site	Local Authority Area
Scrub & Hedgerow Creation/Improvements	Golf Courses	North Tyneside & Newcastle
Scrub & Hedgerow Creation/Improvements	Cemetery Sites	North Tyneside & Newcastle
Scrub & Hedgerow Creation/Improvements	Parks (General)	North Tyneside & Newcastle
Scrub & Hedgerow Creation/Improvements	Gosforth to Cramlington Wildlife Corridor	North Tyneside & Newcastle
Scrub & Hedgerow Creation/Improvements	West Moor/Wellfield	North Tyneside
Scrub & Hedgerow Creation/Improvements	Murton	North Tyneside
Scrub & Hedgerow Creation/Improvements	St Mary's Headland	North Tyneside
Scrub & Hedgerow Creation/Improvements	Town Moor	Newcastle
Scrub & Hedgerow Creation/Improvements	Hadrian's Way	Newcastle/North Tyneside

III.
SPECIES
ACTION PLANS

11. FARMLAND BIRDS

General Description

A number of seed-eating farmland birds have undergone significant declines since the 1970's. Many of these are familiar and popular birds of open countryside that are still perceived as common and widespread and include birds such as tree sparrow, reed bunting, corn bunting, yellowhammer, linnet, house sparrow, bullfinch, skylark and grey partridge.

These species are all seed-eaters in the winter and feed on invertebrate food during the spring and summer, but have slightly different habitat requirements within the farmed environment. Habitats which support these birds include hay meadows, grazed fields, grass margins, hedgerows and spring-sown cereals with over-wintered stubbles. Unfortunately, changes in farming practices such as land intensification, has reduced the suitability of large areas of farmland for these birds.

Species Description

Species	Description	Habitat
Skylark (*Alauda arvensis*)	Skylarks are small brown birds, usually around 16-18cm long. The rail and the rear edge of the wings are edged with white that is visible in flight. The males have slightly broader wings than the females, which enables the males to hover for longer periods of time.	Skylarks nest on the ground, feeding In open fields with fairly short vegetation and an extensive supply of invertebrates on which to feed the young chicks.
Tree Sparrow (*Passer montanus*)	The tree sparrow is smaller than the house sparrow at 14cm long. It has white cheeks and collar with a black cheek-spot, a chestnut brown head and nape instead of the grey of the house sparrow.	Tree sparrows nest communally in holes in veteran trees, farm buildings or occasionally thick hedges. The adults are seed-eaters but the chicks are fed on insects for the first few weeks of life.
Grey Partridge (*perdix perdix*)	The grey partridge is a medium sized (29-31cm in length), plump, grey coloured gamebird with an orange face and a chestnut tail visible whilst in flight. It is a ground dwelling bird and is usually found in groups of between 6 and 15.	Grey partridge nest on the ground in a variety of farmland habitats including hedge bottoms, tussocky grass margins and cereal crops. The adults are mainly seed-eaters but chicks are dependent on supplies of invertebrates.
Barn Owl (*Tyto alba*)	The barn owl is a medium sized owl with a golden-brown back and white face and underparts.	The typical barn owl prey of small mammals occurs at the highest densities in rough tussocky grassland, where their habit of hunting fairly low to the ground makes them very vulnerable to road traffic collisions. Barn owls traditionally nest in old barns or

		other farm buildings and hollow trees but they adapt well to using nestboxes
Yellowhammer (*Emberiza citronella*)	Yellowhammers are small birds and at 15-17cm in length are slightly larger than buntings. The male yellowhammers have bright yellow underparts and head with brown backs streaked with black and a chestnut rump. The white outer tail feathers are visible only during flight. The females and juveniles are duller in colour with grey or black streaks on back and sides.	Yellowhammer breeds either on or close to the ground within thick hedges, usually where there is a wide uncut grass margin or ditch. They can breed late into the season so even cutting or flailing during August can have a detrimental impact on the success of the last brood. The adults feed almost exclusively on seeds, but chicks are largely dependent on invertebrates.
Linnet (*Acanthis cannabina*)	Linnets are small birds approximately 13.5cm long and feed on seeds and insects. Males are marked with crimson forehead and chest and the females are a duller brown colour. The juveniles are similar to the females but have a paler colouring with bolder streaks	Linnets are dependent on plentiful seed sources throughout the year. They nest in thick, thorny hedgerows or areas of scrub and bramble.
Reed Bunting (*Emberiza schoeniclus*)	Reed buntings are small brown birds (approximately 13-16cm long), with pale/white underparts, with a long, slim, deeply notched tail. The males have a black head and throat and a white collar. However in winter the male has the same streaked head of the female.	They nest in a variety of farmland habitats including crops and set aside as well as ditches and reedbeds. The adults' diet consists of both seeds and insects but the chicks are fed almost exclusively on insects until fledging. Arable field margins, stubbles and bird cover crops provide a vital source of winter food.
Bullfinch (*Pyrrhula pyrrhula*)	The bullfinch male has a bright pinkish-red breast and cheeks, grey back, black cap and tail and a white rump. The female is very similar but has much paler pinkish-fawn coloured breast and cheeks.	Bullfinches use woodlands, hedgerows, thickets and gardens to feed and nest. Their diet consists of seeds and buds and insects for the young.
Lapwing (*Vanellus vanellus*)	The lapwing is a medium sized bird around 30cm long and has a distinctive black and white appearance which along with its rounded wing shape in flight make it easy to identify. Another identification characteristic is their splendid crest.	They require bare ground or short vegetation for nesting and a large supply of ground invertebrates.

Current Status

Changes from traditional farming methods, loss of key habitat for both nesting and foraging have contributed to the decline of these bird species. The following table shows the population trends of the species taken from the

British Trust for Ornithology (BTO) Birds Of Conservation Concern (BOCC) list 2009:-

Species	BOCC Status *	UK BAP Status
Skylark	Red	UK BAP Priority Species
Tree Sparrow	Red	UK BAP Priority Species
Grey Partridge	Red	UK BAP Priority Species
Barn Owl	Amber	-
Yellowhammer	Red	UK BAP Priority Species
Linnet	Red	UK BAP Priority Species
Reed Bunting	Amber	UK BAP Priority Species
Bullfinch	Amber	UK BAP Priority Species
Lapwing	Red	UK BAP Priority Species

***Red = population decline by >50% over 25years;**
Amber = moderate decline (25- 50%) over 25 years.

Protection/Legislation

All wild birds are protected under the following legislation:-

- Schedule 1 & 9 of the Wildlife & Countryside Act,1981 (as amended).

Issues of Concern

- Widespread changes to Britain's farming practices and loss of land to development has contributed to the decline of farmland birds.
- Loss of nesting sites through use of autumn-sown crops.
- Reduced winter seed availability through the loss of over-winter stubble.
- Loss or neglect of hedgerows.
- A shift from hay to silage production.
- Conversion of rough grazing to improved grassland.
- Affects of pesticides and herbicides on bird's food availability.
- Loss of roosting and nesting sites through the demolition and/or conversion of farm buildings.
- Loss of wet grassland, ponds and rough field margins that provide nesting sites and foraging areas.

FARMLAND BIRD TARGETS	TARGET DATE	PARTNERS

Promote Agri-Environment options for farmland birds, particularly in targeted areas.	Ongoing	DEFRA, NE, RSPB
Create 1000 linear metres of native species rich hedgerow on or adjacent to sites that have the potential or are known to support farmland bird species.	2016	NTC, NCC, NWT
Improve 1000 linear metres of species poor hedgerow on sites that have the potential or are known to support farmland bird species.	2021	NTC, NCC, NWT
Ensure that management of scrub and hedgerow on Local Authority land is undertaken at the appropriate times of year to maximise opportunities for wildlife and minimise disturbance.	Ongoing	NTC, NCC
Continue to monitor the status of farmland birds at specific sites.	Annually	NCC, NTC
Identify key areas for tree sparrows and encourage provision for nesting and feeding habitat.	2013	NTC, NCC, NTBC, NWT, NHSN
Install nestboxes at 10 new sites for tree sparrow and barn owl.	2015	NTC, NCC,
Increase suitable habitat for ground nesting birds on 10 sites.	2016	NTC, NCC, NWT, NE, NHSN
Retain existing suitable habitat for ground nesting birds.	Ongoing	NTC, NCC, NWT, NHSN

Links to Other Plans

Habitat Action Plans
Estuary & Coastal
Brownfield Land
Open Water & Wetland

Potential Target Delivery Area

Feature	**Site**	**Local Authority Area**
Scrub/Hedgerow /Grassland	Golf Courses	North Tyneside & Newcastle
Scrub/Hedgerow /Grassland	Cemetery Sites	North Tyneside & Newcastle
Scrub/Hedgerow /Grassland	Parks (General)	North Tyneside & Newcastle
Scrub/Hedgerow /Grassland	Gosforth to Cramlington Wildlife Corridor	North Tyneside & Newcastle
Scrub/Hedgerow/Grassland	West Moor/Wellfield	North Tyneside
Scrub/Hedgerow/Grassland	Murton	North Tyneside
Scrub/Hedgerow/Grassland	St Mary's Headland/The Links	North Tyneside
Scrub/Hedgerow/Grassland	Town Moor	Newcastle

Grassland	Newburn Tyne Riverside Country Park	Newcastle
Scrub/Grassland/Hedgerow	Newcastle Great Park	Newcastle
Grassland	Burradon	North Tyneside
Grassland	Rising Sun/Silverlink	North Tyneside

12. BATS

General Description

There are 18 species of bats (*Chiroptera*) recorded in the UK, 17 of which are breeding. UK bats are found in all types of habitat, often feeding at dusk over hedgerows, rough grassland and wetland features. They feed on the wing on a range of airborne insects, mainly midges, caddisflies, mosquitoes, mayflies, lacewings and small moths, late into the autumn. They require a range of habitats including woodland and woodland edge, aquatic habitat and associated bankside vegetation, pasture and meadows as well as hedgerows and mature trees.

During the summer, bats form colonies in roost sites, which are normally found in a variety of buildings, under bridges, in caves or hollow trees. From November to April bats hibernate at an alternative site, generally an undisturbed, draft free, cool place such as caves, mines, tunnels or unoccupied buildings and they will tend to return to the same sites each year. Recent research has also shown that larger hibernation sites may also be used for swarming and mating prior to hibernation.

Three distinct forms of pipistrelle bat have been recognised, characterised by DNA and echolocation frequencies. Pipistrelle bats are the smallest and commonest species of bat in Britain, but have suffered significant reductions in population size in recent decades. This is the species of bat most often found associated with human activities, as summer maternity roosts are found mainly in buildings.

Current Status

10 bat species have been recorded in the North-East region, at least five of which have been recorded in Newcastle and North Tyneside. These are common pipistrelle, soprano pipistrelle, Brandt's bat, Daubenton's bat and noctule. Bats are a difficult group to identify and record and therefore the lack of definite records does not mean that other bat species are not present in the area.

Species	Regional Status	Main Habitats	
		Feeding	Roosting
Common pipistrelle *Pipistrellus pipistrellus* (45 kHz)	Widespread and common	Woodland edge, hedgerows and gardens.	Modern houses and built structures.
Soprano pipstrelle *Pipistrellus pygmaeus* (55kHz)	Widespread and common	Woodland edge, hedgerows and gardens. Often associated with water.	Modern houses and built structures.
Whiskered Bat (*Myotis mystacinus*)	Uncommon	Deciduous and mixed woodland.	Modern houses and built

			structures.
Brandt's Bat (*Myotis brandti*)	Rare/Uncommon	Deciduous and mixed woodland.	Buildings and houses.
Natterer's Bat (*Myotis nattererii*)	Rare/uncommon	Rivers, streams, lakes, ponds, deciduous and mixed woodland.	Barns, churches, bridges and tunnels.
Daubenton's Bat (*Myotis daubentonii*)	Uncommon	Rivers, streams, lakes and ponds.	Bridges and tunnels.
Noctule (*Nyctalus noctula*)	Uncommon	Deciduous and mixed woodland, pasture and parkland.	Holes in trees
Brown Long-Eared (*Plecotus auritus*)	Uncommon	Deciduous and mixed woodland	Old houses, barns, tunnels
Leisler's Bat (*Nyctalus leisleri*)	Rare	Woodland margins, rivers, streams and pasture.	Buildings, trees and tunnels
Nathusius Pipistrelle (*Pipistrellus nathusii*)	Very rare migratory species	Ponds, lakes, watercourses, mixed woodland and parkland. Always near water.	Buildings and trees

Protection/Legislation

All bats are protected under the following legislation:-

- Schedule 5 of the Wildlife & Countryside Act (1981) which extends to bat roosts and hibernation sites
- Appendix II of the Bern Convention
- Annex IV of the Habitats Directive
- Bonn Convention
- The Conservation (Natural Habitats & c.)Regulations (1994)

Issues of Concern

- Intensive farming practices, inappropriate riparian management, increased pesticide use and changes in land use have reduced the abundance of insect prey.

- Loss and disturbance of summer and winter roost sites including loss of maternity roosts from toxic timber treatment chemicals, inappropriate building practices, tree felling and development.

- Pesticide build up through the food chain leading to a possible decline in prey abundance.

- Loss of and changes in foraging habitat and fragmentation of insect-rich feeding habitat, particularly along corridors such as hedgerows and rivers.

- Inadequate understanding of the legislation protecting bats, leading to inadequate site surveys and loss or damage to roosts when consultation procedures have not been followed.

BAT TARGETS	TARGET DATE	PARTNERS
Collate records on the number and distribution of bat roosts.	2015	NCC, NTC, ERIC, NBG
Ensure that every demolition or renovation project provides at least one bat box on the new building.	Annually	NTC, NCC, NWT
Erect bat boxes on 5 suitable sites on an annual basis.	Annually	NTC, NCC, NWT, BCT, Community
Create 5000 linear metres of foraging/commuting habitat for bats	2016	NTC, NCC, NWT
Produce bat guidance document for planners & developers.	2012	NTC, NCC
Protect all mature trees and standing deadwood and ensure that if felling or pruning is required, a bat survey is undertaken and appropriate mitigation implemented.	Ongoing	NTC, NCC,

Links to Other Plans

Habitat Action Plans
Transport Corridors
Brownfield Land
Scrub, Shrub & Hedgerow
Rivers & Watercourses
Buildings & Structures
Native Woodland
Managed Urban Greenspace
Open Water & Wetland
Lowland Grassland

Potential Target Delivery Area

Feature	Site	Local Authority Area
Scrub/Hedgerow /Grassland	Golf Courses	North Tyneside & Newcastle
Scrub/Hedgerow /Grassland	Cemetery Sites	North Tyneside & Newcastle
Scrub/Hedgerow /Grassland	Parks (General) St Lawrence's Park/ Byker.	North Tyneside & Newcastle
Scrub/Hedgerow /Grassland	Gosforth to Cramlington Wildlife Corridor	North Tyneside & Newcastle
Scrub/Hedgerow/Grassland	West Moor/Wellfield	North Tyneside
Scrub/Hedgerow/Grassland	Murton	North Tyneside
Scrub/Hedgerow/Grassland	St Mary's Headland/The Links	North Tyneside
Scrub/Hedgerow/Grassland	Town Moor	Newcastle
Grassland	Burradon	North Tyneside
Scrub/Hedgerow/Grassland/Wetlands	Waggonway Network	North Tyneside & Newcastle
Scrub/Hedgerow/Grassland	Hadrian's Way	Newcastle
Grassland	Rising Sun/Silverlink	North Tyneside

13. AMPHIBIANS

General Description

Newts
Newts require various types of terrestrial habitat as well as standing water during their lives and they can travel quite large distances to reach suitable habitat. Much of the year is spent in woodlands, scrub and rough grassland, where they feed on a variety of invertebrates. After hibernating on land through the winter (October – February), adult newts return to the water to breed. Females lay eggs on underwater leaves near the edges of ponds and tadpoles develop in the water. The young newts then leave the pond between July and October and mature on land over the next 2-3 years.

In the UK there are three species of newt:-

- **Great Crested Newt** (*Triturus cristatus*)

Great crested newts are the largest of the three native species of newt in the UK, growing to about 16cm long. They are dark in colour, patterned with small white spots and have yellow-orange bellies with black blotches. During the breeding season, males develop a distinct wavy crest along their backs and tails, with a silvery streak down each side of the tail. Females do not have a crest and their tails are yellow-orange along the bottom edge.

- **Smooth Newt** (*Triturus vulgaris*)

The smooth or common newt is the UK's most widespread newt species. They are generally brown in colour and can grow up to 10cm. Adult males have a continuous wavy crest along their back during the breeding season and the belly of both sexes is yellow/orange with small black spots.

- **Palmate Newt** (*Triturus helveticus)*

Like smooth newts, palmate newts are brown in colour with a yellow/orange underbelly, rarely exceeding 10cm in length. The male palmate newt has a filament at the tip of the tail and black webbing on the back feet; features which are not present in smooth newts. Females can be distinguished by their spotted throats, which in the smooth newt are a plain pink/yellow.

- **Common Toad** (*Bufo bufo*)

The common toad is a widespread amphibian found throughout Britain which utilises large and deep water bodies to breed. They can grow up to 8cm, and are generally brown or olive-brown with ‘warty’ skin that often appears dry. Glands in the skin contain powerful toxins making them unpalatable to predators.

Common toads return to the same breeding ponds every spring due to their strong migratory instinct, laying toadspawn in strings as opposed to the clumps that are laid by the common frog. Toads often have a relatively short breeding period of no more than a week, after which adults migrate away from the pond to return to their terrestrial feeding ground.

- **Common Frog** (*Rana temporaria*)

The common frog is the UK's most common amphibian, found in almost any habitat where suitable breeding ponds occur. In fact, garden ponds have become extremely important to this species, particularly in suburban areas. Colouration of frogs can be extremely variable; however, they are generally olive-green or brown in colour with a dark patch behind the eyes. They also have bands of darker striping on the back legs and often have irregular dark markings on the back.

Spawning takes place during early spring, starting as early as February and tadpoles develop into small froglets which are then ready to leave the water in early summer. Outside of the breeding season, frogs can disperse up to 500 metres from a breeding pond to feed on a variety of invertebrate prey such as slugs and snails but they prefer to stay close to damp habitat.

Current Status

Species	UK Status
Great Crested Newt	UK BAP Priority Species
Smooth Newt	-
Palmate Newt	-
Common Toad	UK BAP Priority Species
Common Frog	-

Protection/Legislation

Great crested newts are protected in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended) Schedule 5 and Schedule 2 of the Conservation (Natural Habitats) Regulations 1994 (as amended).

It is illegal to:

- Kill, injure or capture great crested newts, their eggs or their young.
- Destroy or damage ponds they use for breeding or their terrestrial habitat.
- Recklessly damage, destroy or obstruct access to their shelter or protection areas such as ponds.
- Possess or transport a great crested newt or any parts of the animal unless required legally.
- To sell, barter or exchange great crested newts or any part thereof.
- Only licensed professionals can approach great crested newts or their habitat

Issues of Concern

- Loss of suitable breeding ponds through infilling, water table reduction, neglect, development and agricultural intensification.
- Loss and fragmentation of terrestrial habitats through development and agricultural intensification. Most amphibians spend a great deal of time on the land surrounding their breeding ponds. If this terrestrial habitat is lost or not managed appropriately, food and shelter sources are reduced.
- Introduction of fish and release of exotic species that compete with or eat amphibian larvae.
- Chemical pollution and enrichment of breeding sites make ponds less suitable for amphibians.
- Lack of information on distribution and local status.
- Severance of migration routes to breeding ponds as a result of development and infrastructure.

AMPHIBIAN TARGETS	TARGET DATE	PARTNERS
Maintain the current distribution of great crested newt (GCN) breeding ponds and provide any new records of GCN sites to ERIC.	Annually	NCC, NTC, ERIC
Ensure that all great crested newt sites are managed in a way that will maintain the viability of the population	Annually	NTC, NCC, NWT
Raise awareness about amphibian conservation and provide advice on habitat management.	Ongoing	NTC, NCC, NWT, Community
Create 10 new amphibian ponds	2016	NTC, NCC, NWT, NHSN
Undertake management that will enhance the biodiversity value of 10 ponds for amphibians	2018	NTC, NCC
Create 10 new amphibian hibernacula at suitable locations	2016	NTC, NCC,

Links to Other Plans

Habitat Action Plans
Transport Corridors
Brownfield Land
Scrub, Shrub & Hedgerow

Rivers & Watercourses
Native Woodland
Managed Urban Greenspace
Open Water & Wetland
Lowland Grassland

Potential Target Delivery Area

Feature	Site	Local Authority Area
Pond Creation	Golf Courses	North Tyneside & Newcastle
Pond Restoration	Weetslade Country Park	North Tyneside
Scrub/Hedgerow /Grassland	Parks (General)	North Tyneside & Newcastle
Wetland Restoration & Creation	Gosforth to Cramlington Wildlife Corridor	North Tyneside & Newcastle
Pond Creation	West Moor/Wellfield	North Tyneside
Wetland Improvements & Pond Creation	Rising Sun & Silverlink Park	North Tyneside
Pond Creation	Newcastle Great Park	Newcastle
Pond Creation	Big waters	Newcastle
Wetland Creation/Improvements	Gosforth Park/Sacred Heart Pond	Newcastle
Wetland/Fen Restoration & Creation	Sacred Heart Fen	North Tyneside
Pond Improvements & Wetland Creation	Brenkley Colliery	Newcastle
Pond Creation	Byker Link	Newcastle
Pond Creation	Walbottle Brickworks	Newcastle
Wetland Creation	St Mary's Headland	North Tyneside
Wetland Creation	Byker Link	Newcastle
Wetland Creation	Kenton Dene	Newcastle

14. Dingy Skipper (*Erynnis tages*)

General Description

From a distance the dingy skipper can easily be mistaken for a day-flying moth. Both the male and female are fast fliers and appear similar. It is a small well camouflaged brown and grey butterfly and is best seen on sunny days. During dull days or at night they rest with their wings folded back in a moth-like way. They require a sparse sward with an abundance of the larval food plants, common bird's foot-trefoil, greater bird's foot-trefoil or horseshoe vetch. Bare ground is also important for this species, as much of it's time is spent basking in the sun with its wings wide open. Habitats include woodland rides and clearings, sand dune systems, heathland, old quarries, railway lines and waste ground. Eggs are laid singly on young leaves of the food plants with larvae emerging in May. The larvae feed through the summer months, hiding in tents that they create by spinning leaves together. By August the larvae will be fully grown and will spin more leaves together to form a hibernaculum for the winter. The Dingy Skipper is an inactive species and unlikely to colonise new areas of habitat unless they are in close proximity to existing populations. Colonies are distinctly small, containing fewer than 50 individuals at the peak flight period, which means they can easily be overlooked.

Current Status

In recent decades the dingy skipper has had a 42% decline nationally and as a consequence, the species is now on the UK BAP list. In addition, any site found supporting a dingy skipper population in Northumberland, Newcastle & North Tyneside, automatically meets the criteria for designation as a Local Wildlife Site (LWS). It is a highly localised species and many of the key sites tend to be post-industrial sites in particular along disused railway lines and waggonways.

There are a limited number of dingy skipper sites in Newcastle and North Tyneside, due to isolation and loss of habitat for this species. At present there are two known sites in North Tyneside and seven in Newcastle.

Protection/Legislation

UK BAP Priority Species (listed on S41 list of NERC Act)

Issues of Concern

- Loss of habitat through development, agriculture and tree planting.
- Lack of site management leading to natural succession by scrub and tall vegetation, which shades out the food plants and reduces bare ground.

- Isolation of existing colonies.
- Trampling of vegetation by humans in the larval and pupal stages.
- Inappropriate site management leading to loss of food plants/larval plants.

DINGY SKIPPER TARGETS	TARGET DATE	PARTNERS
Continue to survey and map the distribution of dingy skipper	Annually	NCC, NTC, ERIC, BC
Establish monitoring at all key sites to determine any change in status	Annually	NTC, NCC, ERIC, BC
Protect dingy skipper sites where possible and secure appropriate mitigation where adverse impacts will occur.	Ongoing	NTC, NCC, NWT, Community
Ensure that land owners and managers are aware of the presence of the species and establish appropriate methods of habitat management	Ongoing	NTC, NCC, NWT
Re-survey locations where current status is not clear	2013	BC, NTC, NCC, ERIC
Maintain communication with Butterfly Conservation to raise awareness of this butterfly and its management requirements	Ongoing	NTC, NCC
Include the habitat requirements of dingy skipper when drawing up mitigation or restoration measures in the development control process where sites are located adjacent to existing colonies	Ongoing	NTC, NCC
Seek and develop opportunities to establish new colonies	Ongoing	NTC, NCC,

Links to Other Plans

Habitat Action Plans
Transport Corridors
Brownfield Land
Managed Urban Greenspace
Lowland Grassland

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Shiremoor/Backworth	North Tyneside
Habitat Creation & Management	Silverlink Waggonways	North Tyneside

Habitat Creation & Management	Hadrian's Way	North Tyneside & Newcastle
Habitat management	Shelly Road	Newcastle
Habitat Creation & Management	Newburn Haugh	Newcastle
Habitat management	Brenkley Colliery	Newcastle
Habitat management	Walbottle Brickworks	Newcastle
Habitat Creation & Management	Walker Riverside	Newcastle
Habitat Management	Havannah	Newcastle
Habitat Management	Scotswood Road wildflower embankment	Newcastle
Wetland/Fen Restoration & Creation	Sacred Heart	North Tyneside

15. OTTER (*Lutra lutra*)

General Description

The Eurasian otter is a medium sized dark brown mammal, which occurs principally in rivers, streams, lakes, wet woods, ponds, wetlands and suitable coastal waters. It is the only native species of otter found in the UK. Otters feed mainly on fish, eels, small mammals, crustaceans and waterbirds and are found near waterways with well developed bankside vegetation for cover and breeding. They are highly mobile and individuals can cover as much as 40km of waterway and associated habitat as a home range within which they will have many resting sites and breeding holes (holts).

Current Status

Otters were widespread throughout the UK until the 1950's when a dramatic decline began as a result of the use of organochlorine pesticides, largely in agriculture. The species was effectively lost from the midlands and the eastern and south-eastern counties of England by the 1980's. However, the decline now appears to have halted and populations appear to be recovering, particularly in the north east, the south west and Wales. Certain areas of Northumberland have remained as one of the otters strongholds in England. In recent years there has been evidence of the species re-establishing itself in lowland areas of the region. In North Tyneside, signs of this species have been recorded along the Seaton Burn from source to mouth. In Newcastle it is present along the entire length of the Ouseburn. There is also evidence that they are utilising other small watercourses in both areas. Otters are also present on the River Tyne and occasionally along the coast.

Protection/Legislation

Otters are protected in the United Kingdom under the Wildlife and Countryside Act 1981 (as amended) Schedule 5 and Schedule 2 of the Conservation (Natural Habitats) Regulations 1994 (as amended).

Issues of Concern

- Pollution of watercourses, particularly from farm and domestic effluent, sheep dips and Polychlorinated Biphenyls (PCB's) which are still problematic. Low flows can also concentrate pollution levels, compounding the problem and reducing food availability.

- A shortage of prey, associated with poor water quality and quantity and low grade riparian habitat.

- Destruction of bankside habitat required by otters for breeding and resting.

- Incidental mortality caused mainly by road traffic is an issue fragmenting populations and is a hindrance to recovery of populations.
- Recreational and developmental activity on river banks can cause disturbance to otters, particularly in sensitive areas used for breeding.
- Fragmentation of habitats results in the isolation of populations.
- Impacts from development creating loss and disturbance to otter habitat.
- Illegal Persecution.

OTTER	TARGET DATE	PARTNERS
Maintain the current distribution of otter in Newcastle and North Tyneside. Submit all otter records to ERIC.	Ongoing	NCC, NTC, EA, NWT, NWL, ERIC, NMG
Restore and improve riparian habitat along 5km of watercourse for otters.	2021	NTC, NCC NWT, EA
Ensure all operations affecting watercourses take account of otters, retaining features such as old trees, scrub and overhanging root systems	Ongoing	NTC, NCC, EA, NWL
Encourage public participation in submission of otter sightings and otter conservation through articles and promotional material.	2015	NTC, NCC, NWT, NWL, EA, NMG
Construct and install 5 otter holts at suitable sites.	2016	NTC, NCC, NWT, EA
Identify priority stretches of watercourse where habitat improvement for otters should be focused.	2014	NTC, NCC, NWT, EA
Limit accidental killing of otters on roads, by providing suitable underpasses where appropriate.	Ongoing	NTC, NCC

Links to Other Plans

Habitat Action Plans	Species Action Plans
Rivers & Watercourses	Water Vole
Estuary & Coastal	Amphibians
Urban Managed Greenspace	
Native Woodland	
Scrub, Shrub & Hedgerow	
Open Water & Wetland	

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Seaton Burn Watercourse	North Tyneside
Habitat Creation & Management	Northumbrian Water Howdon	North Tyneside
Habitat Creation & Management	Weetslade Colliery/Sacred Heart Fen	North Tyneside
Habitat Creation & Management	Newcastle Great Park	Newcastle
Habitat Management and otter Holt creation	Jesmond Dene	Newcastle
Habitat Creation & Management	Big Waters	Newcastle
Habitat Creation & Management	Callerton Pond Area	Newcastle
Habitat Creation & Management	River Tyne	Newcastle & North Tyneside

16. URBAN BIRDS

General Description

This is a generic plan covering several bird species associated with urban areas. Urban birds often provide the main contact with wildlife that people will experience in urban environments. In fact, feeding garden birds has become a major recreational activity, as indicated by the huge numbers of people who contribute to the British Trust for Ornithology (BTO) and the Royal Society for the Protection of Birds (RSPB) garden bird surveys. Many of these species are actually woodland birds which have successfully adapted to living in parks and gardens. One such species, the song thrush, is in serious decline in the countryside but is holding its own in urban and suburban areas.

Species such as house sparrow and swift, however, are truly urban in that they breed almost entirely in or on buildings and starlings are also highly dependent on buildings for nest sites.

Species	Description	Habitat
Song Thrush (*Turdus philomelos*)	The song thrush is a medium sized songbird, similar in shape and build to a blackbird, which has brown upperparts, white underparts and a speckled breast.	Found in a wide variety of habitats including farmland, woodland edge, hedgerows and in urban habitats such as gardens, parks and amenity land where there is sufficient cover for nesting and open ground for feeding. It feeds on a wide range of invertebrates, particularly worms and snails and from late summer to winter, on fruit, berries and seeds from plants such as elder, hawthorn, blackthorn and holly.
House Sparrow (*Passer domesticus*)	The male house sparrow has a chestnut brown back with black streaks and grey coloured underparts, rump and crown. The cheeks are a dull white, and they have a black eye stripe and bib. The female is paler and lacks the grey crown, white cheeks, black bib and eye stripe.	House Sparrows are gregarious birds that live in colonies around people, nesting in holes or crevices in buildings, or among creepers growing on buildings. The nest is an untidy cup-shaped structure made from a jumble of odds and ends including coarse grass, rubbish, straw and feathers. The House Sparrow's diet is diverse ranging from berries, nuts, seeds, insects and scraps.
Starling (*Sturnus vulgaris*)	The Starling's plumage is mainly black with white speckles during winter. These speckles disappear in the spring and are replaced with an iridescent green and purple colour which gives the bird's plumage an oily appearance.	Starlings are found just about everywhere in woodland, copses, parks and gardens where they build their nests in holes within trees, walls or buildings. They feed on a large variety of food including insects, worms, snails, berries, fruit and scraps. However, only invertebrates are fed to their young.
Dunnock	Dunnock's have a streaky grey-	The dunnock is found in woodlands,

(*Prunella modulris*)	brown plumage like a dull, slimmer house sparrow and they have a thin bill. The sexes are very similar, though the female is a little drabber in colour.	plantations, parklands, gardens and cemeteries. They build their nests in dense shrubs and hedges creating a cup-shaped nest which is built from twigs and moss. Dunnocks feed mainly on the ground, eating insects such as beetles, ants and spiders, which they glean from leaf litter and plant roots. When food is scarce in the autumn and winter they will eat seeds and berries.
Swift (*Apus apus*)	Swifts are fast, high-flying birds that feed on the wing and are never found on the ground. They are sociable birds found swooping, screaming and chasing one another all day long. Their plumage is a sooty-brown colour with a whitish throat and they have a forked tail and sickle-shaped wings.	A swift's entire life is spent in the air where it feeds exclusively on airborne insects. Breeding is the only time swifts stop flying; they nest in holes in walls or under eaves. The nest is made from grasses, leaves and feathers collected while flying - and bonded together with saliva.
House Martin (*Delichon urbica*)	Smaller than a swallow with broad, rather short pointed wings and a forked tail. Blue-black above, pure white underneath with an obvious white rump above. An aerial feeder, catching insects over a range of habitats, including gardens, grasslands and water.	House martins, like swifts, feed on the wing by catching insects in their gaping mouths. Cup-shaped mud nests are built or refurbished on the outer walls of buildings, especially under the eaves of houses. Nesting can be colonial with several nests side by side.

Current Status

Loss of key habitat for both nesting and foraging has contributed to the decline of these bird species. The following table shows the population trends of the species taken from the BTO's Birds Of Conservation Concern (BOCC) list 2009:-

Species	BOCC Status *	UK BAP Status
Song Thrush	Red	UK BAP Priority Species
House Sparrow	Red	UK BAP Priority Species
Starling	Red	UK BAP Priority Species
Dunnock	Amber	UK BAP Priority Species
Swift	Amber	-
House Martin	Amber	-

***Red = population decline by >50% over 25years;**
Amber = moderate decline (25%-50%) over 25 years.

Protection/Legislation

All wild birds are protected under the following legislation:-

- Schedule 1 & 9 of the Wildlife & Countryside Act (1981).

Issues of Concern

- Loss of suitable nesting sites due to modern building design and construction.
- Reductions in sources of both invertebrate and seed food due to habitat loss and increased use of pesticides.
- Increasing 'tidiness' and pesticide use both in gardens and public greenspaces.
- Replacement of hedgerows with fencing, removal of creepers on walls and clearance of shrubberies causing reduction in suitable nesting sites.
- Development of brownfield sites used for foraging for insects and seeds.
- Predation by domestic cat, sparrowhawk and other predators.

URBAN BIRDS	TARGET DATE	PARTNERS
Encourage public participation in urban bird surveys	Ongoing	NCC, NTC, NWT, ERIC
Encourage public to submit sightings of swifts at roof level to the National Swift Inventory	Ongoing	NTC, NCC, RSPB, NTBC
Continue to monitor current sites for priority species.	Annually	NTC, NCC NTBC
Encourage winter feeding of urban birds on an annual basis through public events and/or the media.	Autumn/Winter	NTC, NCC, RSPB, NTBC, NWT
Encourage nest box construction and installation for urban birds on an annual basis through public events and/or the media.	Autumn/Winter	NTC, NCC, RSPB, NTBC, NWT, NHSN
Install 20 nest boxes on suitable sites for a wide variety of urban bird species.	Annually	NTC, NCC, NWT, NHSN
Encourage developers to incorporate nesting features on all new development projects through the planning process.	Ongoing	NTC, NCC

Encourage wildlife friendly gardening through media articles, websites, events and printed material.	Annually	NTC, NCC, RSPB, NTBC, NWT, NHSN

Links to Other Plans

Habitat Action Plans
Buildings & Structures
Brownfield Land
Scrub, Shrub & Hedgerow
Rivers & Watercourses
Native Woodland
Managed Urban Greenspace
Open Water & Wetland
Lowland Grassland

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Shiremoor/Backworth	North Tyneside
Habitat Creation & Management	Silverlink Park	North Tyneside
Habitat Creation & Management	Rising Sun Country Park	North Tyneside
Habitat Creation & Management	Northumberland Park	North Tyneside
Habitat Creation & Management	Wallsend Parks	North Tyneside
Habitat Creation & Management	St Mary's Island	North Tyneside
Habitat Creation & Management	Brierdene	North Tyneside
Habitat Creation & Management	Holywell Dene	North Tyneside
Habitat Creation & Management	Weetslade Colliery	North Tyneside
Habitat Creation & Management	Newcastle Great Park	Newcastle
Habitat Creation & Management	Leazes Park	Newcastle
Habitat Creation & Management	Exhibition Park	Newcastle
Habitat Creation & Management	Jesmond Dene	Newcastle

Habitat Creation & Management	Newcastle Allotments, cemeteries and schools	Newcastle & North Tyneside

17. Water Vole (*Arvicola terrestris*)

General Description

The water vole is Britain's largest vole and is distinguished from the brown rat by its dark fur, round body, short tail, less obvious ears and a short, blunt head with small eyes. Water voles will inhabit still or flowing water but need plenty of submerged and marginal vegetation (especially reeds, sedges and grasses) for shelter and food, with suitable banks for burrowing. Above ground, their activity is largely confined to runs in dense vegetation radiating from and along the water's edge. Water voles are herbivorous, primarily feeding on the lush aerial stems and leaves of waterside plants and typically select sites with a high layering of grasses and herbaceous plants. They live in extended colonies, strung out along a watercourse through a series of contiguous territories, which range from 30-150m for females and 60-300m for males. The breeding season lasts from March to October, and the females' territories are separate lengths of bankside, more than one of which may be overlapped by the larger territories of the males.

Current Status

Water voles are found within suitable riparian habitat throughout mainland Britain. This species was once common and widespread but has suffered significant decline in numbers and distribution. The most recent population estimates have shown a 95% reduction in the population making it the UK's fastest declining mammal.

The species occurs in small populations in a limited number of sites in Newcastle and North Tyneside. These include small sections of the Ouseburn and the Wallsend Burn and ponds and watercourses in and around the Rising Sun Country Park. Population numbers are thought to be small, fragmented and extremely vulnerable.

Protection/Legislation

Water voles are protected under Schedule 5 of the Wildlife & Countryside Act 1981 as amended (protection relates to destruction of habitat and disturbance to individuals)

Issues of Concern

- Habitat loss and fragmentation due to inappropriate management and development is one of the major causes of decline. Culverting, straightening and clearance of vegetation from waterways has led to a decline in habitats that water voles depend upon. As a result, their distribution has become more restricted and isolated, leaving them vulnerable.

- Insensitive river engineering, bank protection, maintenance work and inappropriate water level management can affect the availability of refuges for water voles. This increases their vulnerability to predation and leads to a reduction in food supply.

- Predation by the introduced American mink and domestic cat are thought to be a significant factor in their decline.

- Pollution of watercourses, for example, from industry, agriculture and urban waste treatment.

- Application of rodenticides by watercourses with the aim of controlling rat populations.

- Disturbance of riparian habitat (e.g. poaching, overgrazing and trampling from horses is significant locally, human disturbance etc.).Although water voles can tolerate disturbance, if this is prolonged the pressure often causes voles to abandon sites.

- Competition with rats has increased in certain areas as a result of supplementary bird feeding and accumulated rubbish on development sites.

WATER VOLE	TARGET DATE	PARTNERS
Initiate a baseline survey for water voles in Newcastle and North Tyneside along key watercourses to update current records	2013	NTC, NCC, NWT, EA
Submit all water vole records to ERIC	Ongoing	NCC, NTC, EA, NWT, ERIC, NMG
Improve riparian habitat along 5km of watercourse to help increase connectivity for water voles.	2020	NTC, NCC NWT, EA
Ensure all operations affecting watercourses take account of water voles.	Ongoing	NTC, NCC, EA, NWL
Encourage public participation in submission of water vole sightings and their conservation through articles, leaflets and activities.	2014	NTC, NCC, NWT, NWL, EA, NMG
Identify priority stretches of watercourse where habitat improvement for water voles should be focussed.	2013	NTC, NCC, NWT, EA

Links to Other Plans

Habitat Action Plans	Species Action Plans
Rivers & Watercourses	Otter

	Amphibians
Urban Managed Greenspace	
Lowland Grassland	
Scrub, Shrub & Hedgerow	
Open Water & Wetland	

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Brierdene Burn – Shiremoor/Backworth	North Tyneside
Habitat Creation & Management	Wallsend Parks/Wallsend Dene	North Tyneside
Habitat Creation & Management	Rising Sun Country Park	North Tyneside
Habitat Creation & Management	Wallsend Burn - Benton	North Tyneside
Habitat Creation & Management	Weetslade Colliery/Sacred Heart Fen	North Tyneside
Habitat Creation & Management	Balliol/Longbenton	North Tyneside
Habitat Creation & Management	Wallsend & Backworth Golf Course	North Tyneside
Habitat Creation & Management	Callerton Pond, Lough Bridge and Ouseburn	Newcastle
Habitat Creation & Management	Newcastle Great Park – Cell G and Cell I	Newcastle
Habitat Creation & Management	Hartley Burn between Dinnington and Big Waters	Newcastle

18. RED SQUIRREL (*Sciurus vulgaris*)

General Description

The red squirrel is Britain's only native squirrel. It is a small rodent that feeds opportunistically upon a wide range of foods that are found in and around the woodland that it inhabits. The red squirrel has a distinct red/brown coat, which can vary in colour. It also has a long bushy tail of uniform colour and characteristic ear tufts.

The most important food types are seeds and fruit, followed by tree shoots, buds, flowers, berries, bark, fungi and lichens. Red squirrels tend to feed in trees and whilst nibbling on cones, strip the cone scales to produce a characteristic core. These remains are often found scattered under trees or in little heaps at prominent feeding points. Red squirrels live in dreys, compact twig and leaf nests, usually sited near the trunk or in a fork of a large branch. They are usually built between 6-10m from the ground. Natural tree holes will also be used where available.

Since the 1870's there has been a considerable decline in the population and range of the red squirrel. This has occurred as a result of competition with the larger grey squirrel, an introduction from North America that has subsequently expanded in range and number. The grey squirrel also carries a virus to which it has immunity but the red does not and this has resulted in a large number of red squirrel deaths. Red squirrels are now mainly seen in large areas of coniferous woodland in northern England and Scotland, but in isolated pockets elsewhere they still occur in deciduous woodland. Where grey squirrels are present, the potential for red squirrel survival appears greater in conifer woodlands. In the absence of the grey, both broadleaved and conifer woodlands provide suitable habitat.

Current Status

Newcastle is the only remaining English city with a population of red squirrels. Within Newcastle the red squirrel occurs at Havannah Local Nature Reserve, Gosforth Park Nature Reserve and Woolsington Woods. There are no sites that support red squirrel in North Tyneside, however the occasional red squirrel is sometimes reported in areas surrounding Gosforth Park.

Grey squirrels have now expanded into most parts of the North East. Red squirrels tend to be displaced within 5 to 15 years of the arrival of greys. The conservation of this species is therefore of the highest national and regional concern.

Protection/Legislation

EC Habitats Directive, Wildlife & Countryside Act, Countryside and Rights of Way Act 2000, Species of Principal Importance and UK BAP Priority Species.

Issues of Concern

- Grey squirrels are now established in Newcastle and North Tyneside. Retaining Red Squirrel populations in remaining locations is almost totally dependant on controlling grey squirrels at those sites and in surrounding neighbourhoods.
- Many people do not realise that grey squirrels are a pest or threat to local red squirrel populations. People deliberately feed grey squirrels in their gardens giving them an even greater advantage over red squirrels. This is a problem close to sites that still have red squirrel populations.
- Urban development has led to the loss of corridors between these and other woodlands, making them increasingly isolated. Resulting impact upon red squirrels is to reduce population size (through changes in food availability)
- Predation by dogs, cats, foxes, raptors may have a very minor impact on red squirrel populations.
- Red squirrels have been killed crossing roads.

RED SQUIRREL	TARGET DATE	PARTNERS
Report all red squirrel sightings to ERIC and RSNE	Ongoing	NTC, NCC, NWT, ERIC
Carry out public awareness activities to promote red squirrel conservation and discourage people from feeding grey squirrels close to red squirrel sites.	Ongoing	NHSN, RSNE
Carry out grey squirrel control at remaining red squirrel sites and surrounding areas.	Ongoing	NHSN, RSNE, NCC, plus managers of other sites
In areas where red squirrels are still present, improve woodland management of the site and surrounding area where possible.	Ongoing	NCC, NTC, NHSN, other site managers
Monitor grey squirrel control measures and effects to both grey squirrel and red squirrel populations through RSNE recognised methods	Ongoing	RSNE, NHSN

Links to Other Plans

Habitat Action Plans
Transport Corridors
Native Woodland
Managed Urban Greenspace
Scrub, Shrub & Hedgerow

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation, Management & Control	Whitehouse Farm/West Moor	North Tyneside
Habitat Creation & Management	Gosforth/Balliol Business Parks - Longbenton	North Tyneside
Habitat Creation & Management	Weetslade Colliery/Wideopen	North Tyneside
Habitat Creation, Management & Control	Gosforth Park Nature Reserve and Gosforth Park Racecourse	Newcastle
Habitat Creation, Management & Control	Woolsington Woods	Newcastle
Habitat Creation, Management & Control	Hoy Woods, North Brenkley	Newcastle
Habitat Creation, Management & Control	Land to south of Gosforth Park	Newcastle

19. HEDGEHOG (*Erinaceus europaeus*)

General Description

Hedgehogs are the only spiny British mammal having up to 7000 dense sharp brown spines on its back and sides. When threatened, it curls into a ball, so that the spines offer protection. The only native species able to successfully penetrate this defence is the badger. The chest and belly are covered in coarse grey-brown fur. These widespread mammals are found in most lowland habitats, but are most commonly seen in areas where there is grassland close to woodland, scrub or hedgerow. Urban and suburban gardens have become particularly important to hedgehogs seeking food and nest sites. Hedgehogs are mostly nocturnal, and can travel up to 2km in their nightly forages for food which includes beetles, earthworms and slugs. The young are born between May and September, in litters of four or five. Hedgehogs build nests called hibernacula in which to avoid the coldest times of winter by hibernating, usually between November and early April, depending on the weather. Favourite sites for these are under timber buildings, in piles of brushwood or leaves, or in compost heaps. If it is warm enough and there is enough food, hedgehogs do not hibernate at all. Hedgehogs need to be in good condition physically and weigh over 600 grams before they enter hibernation.

Current Status

Hedgehogs are widespread in lowland Britain, except for some Scottish islands.
The Mammal Trust UK (2006) reported a rapid decline in hedgehogs, with some areas experiencing a 50% decline. There is currently no systematic survey of Hedgehogs in Newcastle and North Tyneside, therefore the population status and distribution is unknown.

Protection/Legislation

- Wildlife & Countryside Act 1981 (Schedule 6)
- UK Biodiversity Action Plan Species

Issues of Concern

- Loss and fragmentation of suitable habitat to agriculture and urban development.
- Reduction in insect food supply from overuse of pesticides.
- Secondary poisoning from slug pellets.
- Death from road traffic.
- Removal of leaf litter and tendency towards fences rather than hedges in gardens causes a reduction in hibernation sites and reduces foraging areas.

- Lighting of bonfires without checking for hibernating hedgehogs.
- Drowning in garden ponds with steep sides.
- Becoming trapped in cattle grids causing death by starvation.
- Feeding of milk and bread by humans causing diarrhoea and dehydration which can lead to death.
- Trapping of hedgehogs in discarded cans, yogurt pots and plastic cups.

HEDGEHOG	TARGET DATE	PARTNERS
Engage the public in surveys to determine the distribution of hedgehogs in Newcastle and North Tyneside.	2012	NTC, NCC, NWT, ERIC, NMG
Produce advisory information for managing gardens and urban green space for hedgehogs.	2013	NTC, NCC, NWT
Create and install 20 hibernacula at appropriate sites throughout Newcastle & North Tyneside.	2015	NTC, NCC NWT

Links to Other Plans

Habitat Action Plans
Transport Corridors
Brownfield Land
Managed Urban Greenspace
Lowland Grassland
Native Woodland
Scrub, Shrub & Hedgerow

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Allotment Sites	Newcastle & North Tyneside
Habitat Creation & Management	Parks	Newcastle & North Tyneside
Habitat Creation & Management	Cemeteries	Newcastle & North Tyneside
Habitat Creation & Management	Golf Courses	Newcastle & North Tyneside
Habitat Creation &	Schools	Newcastle & North

Management		Tyneside
Habitat Creation & Management	New housing on Newcastle Great Park	Newcastle

20. SLOW WORM (*Anguis fragilis*)

General Description

Slow worms resemble a smooth slender snake, but are actually lizards without legs and have very small scales on their body which gives them a shiny grey brown or bronze appearance. Adult females are approximately 400mm in length, males are slightly smaller. The female can be identified by longitudinal dark stripes running down both sides of the body. Reproduction is ovi-viviparous, meaning that the young are born in an egg membrane that breaks soon after birth. A slow worm's skin is shed throughout the year to allow them to grow and helps keep the skin clean and healthy.

Slow worms are found in relatively open spaces such as allotments, gardens, parklands and wasteland. Although they like warmth, you won't find them basking in the sun. They are secretive and elusive creatures that tend to hide beneath dead vegetation and discarded rubbish such as sheets of wood, corrugated iron, carpets and stones. Slow worms are carnivorous and because they feed on slugs and worms, they can often be found in long grass and other warm damp environments such as compost heaps

Current Status

Once common and widespread throughout England, Scotland and Wales, slow-worm numbers have declined steadily both nationally and locally. The only record of slow worm in the Newcastle and North Tyneside area is on the Metro line at Whitley bay. However, this species is very secretive and is not easily seen, it is therefore expected that more sites will be discovered as the profile of the slow-worm is raised.

Protection/Legislation

- Wildlife & Countryside Act 1981 (Schedule 5, Section 9)
- UK Biodiversity Action Plan Species

Issues of Concern

- Loss and fragmentation of suitable habitat due to development, natural succession and agriculture.
- Loss of habitat due to unsympathetic management.
- Direct killing, through careless mowing or strimming.
- Lack of linear features connecting suitable habitats.
- Deliberate persecution by humans who mistakenly believe them to be dangerous.
- Predation by domestic cats.

SLOW WORM	TARGET DATE	PARTNERS
Determine the current extent and distribution of habitats supporting or likely to support slow worm	Ongoing	NTC, NCC, NWT, ERIC, NERAG
Seek to designate confirmed slow worm habitats as Local Wildlife Sites	Ongoing	NCC, NTC, LWSP
Target allotment owners to raise awareness of conservation requirements of slow worm and encourage recording of sightings.	2012	NTC, NCC NWT, ERIC
Advise land managers on suitable management of current and potential slow worm habitats. Prevent loss or degradation of these existing sites.	Ongoing	NTC, NCC
Create 5 hibernacula on current and potential sites.	2013	NTC, NCC, NWT

Links to Other Plans

Habitat Action Plans
Transport Corridors
Native Woodland
Managed Urban Greenspace
Scrub, Shrub & Hedgerow
Brownfield Land
Lowland Grassland

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Whitley Bay Metro Station	North Tyneside
Habitat Creation & Management	Allotment Sites	Newcastle & North Tyneside
Habitat Creation & Management	Metro/Railway land	Newcastle & North Tyneside

21. BUMBLEBEES

General Description

Bumblebees are large, hairy insects with a powerful but bumbling flight that belong to the genus *Bombus*. There are currently 24 species of bumblebee in the British Isles which are found in a large range of habitat types. Nests are built underground or at the surface, especially around undisturbed hedges and grassy banks. Adult bumblebees forage for pollen and nectar throughout the spring and summer months and the collected pollen is used to feed their larvae. The main forage plants preferred by many of the bumblebee species are from the families *Fabaceae* (clovers and vetches), *Scrophulariaceae* (figworts) and *Labiatae*(dead-nettles and woundworts). The colonies last for a year, with new queens hibernating underground through the winter and establishing fresh colonies the following year.

Many UK bumblebee species have suffered massive declines in the last century, in fact, within the last 70 years, two species have become nationally extinct and there are currently six species listed as UK BAP priority species for conservation action. Conservation for these species will also protect many other bumblebee species. Bumblebees are one of our best-loved groups of insects which makes them particularly valuable as an indicator species for urban environments, particularly allotments, parks and gardens.

Current Status

There are 6 common species of bumblebee found throughout large parts of the UK and which are almost certainly found in Newcastle and North Tyneside:-

Common Name	Latin Name	Habitat Type
White-tailed bumblebee	*Bombus lucorum*	Common in all habitat types
Buff-tailed bumblebee	*Bombus terrestris*	Common in lower altitudes
Early bumblebee	*Bombus pratorum*	Common except at high altitude
Red-tailed bumblebee	*Bombus lapidarius*	Common except at high altitude
Garden bumblebee	*Bombus hortorum*	Common at low altitudes
Carder bumblebee	*Bombus pascuorum*	Common in all habitat types

Protection/Legislation

- A limited number are UK Biodiversity Action Plan Species

Issues of Concern

- Loss of species rich grasslands supporting a continuous succession of preferred forage plants, through agricultural intensification and development.

- Excessive mowing of grass verges and amenity areas has reduced flowering plant diversity.
- Destruction and degradation of hedgerows leading to loss of hibernation and foraging areas.
- Increased use of herbicides has led to dramatic loss of abundance and diversity of native wildflowers.
- Public perception that bumblebees are aggressive and dangerous, leading to destruction of nests.
- Changes in horticultural practices (e.g. decking & paving gardens, over-tidying gardens and use of modern cultivars) leading to a reduction in foraging habitat for bumblebees.
- Climate change – it is possible that several species will be affected by global warming as they do not forage when temperatures are high.

BEES	TARGET DATE	PARTNERS
Develop bee projects with local Universities/educational establishments	2013	NTC, NCC, NWT, ERIC
Create 6 flagship bee gardens on appropriate sites to raise awareness of bee conservation and encourage appropriate planting.	2014	NCC, NTC, Local Schools, allotments & Community
Promote the retention or provision of suitable nesting and over wintering sites in public and private gardens and allotments.	Ongoing	NTC, NCC NWT, ERIC, NHSN
Advise landowners on suitable management of sites for bumblebees.	Ongoing	NTC, NCC
Carry out a survey of bees on 10 appropriate sample sites.	2015	NTC, NCC, NWT, ERIC
Raise skills level by delivering bee identification workshop.	2014	NTC, NCC, NWT

Links to Other Plans

Habitat Action Plans
Transport Corridors
Native Woodland
Managed Urban Greenspace
Scrub, Shrub & Hedgerow

Brownfield Land
Lowland Grassland
Buildings and Structures

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Allotment Sites	Newcastle & North Tyneside
Habitat Creation & Management	Parks	Newcastle & North Tyneside
Habitat Creation & Management	Cemeteries	Newcastle & North Tyneside
Habitat Creation & Management	Schools	Newcastle & North Tyneside
Habitat Creation & Management	New housing on Newcastle Great Park	Newcastle

22. BROWN HARE

General Description

The brown hare is similar in appearance to a rabbit, but its body is larger, the limbs are longer, as are the ears, which are also black tipped. In Newcastle and North Tyneside, the brown hare is found mainly in farmland areas, using the mosaic of habitat available. During the summer it feeds and shelters in arable crops and pasture, whilst in winter it seeks shelter in hedgerows, woodlands and scrub. This species is widespread throughout Britain except in the north-west and Western Highlands. It has undergone a significant decline in population since the early 1960's and the last national brown hare survey, organized by Bristol University in 1996, estimated the population at between 817,500 and 1,250,000.

Current Status

There are a limited number of sites for brown hare in Newcastle and North Tyneside due to the amount of habitat available to this species in these urban areas. In Newcastle, brown hare is mainly confined to the north and west of the city in agricultural areas around Dinnington and Newcastle Great Park. In North Tyneside, brown hare are also limited to mainly agricultural sites, such as those in and around Backworth. They have also been recorded using some of the larger wildlife sites such as the Rising Sun Country Park and Silverlink Country Park due to the variety of habitat types found on these sites.

Protection/Legislation

- UK BAP priority Species
- The Hares Act 1848 prohibits the shooting of hares at night by any person other than a landowner or occupier, or a person authorised under Ground Game Act 1880
- The Hares Preservation Act 1892 creates a closed season for the sale of hares during the breeding season, (1 March - 31 July inclusive).

Issues of Concern

- Modern agricultural practices resulting in loss of suitable habitat e.g. conversion of grassland to arable, loss of hedgerows, intensive farming techniques and the loss of mixed farms.

- Illegal hare coursing and poaching.

- Road casualties.

- Increasing urban developments.

BROWN HARE	TARGET DATE	PARTNERS
Seek to secure sympathetic management of habitat for brown hares	Ongoing	NTC, NCC

through the planning system.		NWT
Create 500 linear metres of native species rich hedgerow.	2021	NTC, NCC, NWT
Improve 500 linear metres of species poor hedgerow	2021	NTC, NCC, NWT
Create or restore 2ha of lowland species rich grassland	2021	NTC, NCC NWT
Increase public awareness about the conservation status of brown hare	2014	NTC, NCC

Links to Other Plans

Habitat Action Plans
Transport Corridors
Scrub, Shrub & Hedgerow
Brownfield Land
Lowland Grassland

Potential Target Delivery Area

Feature	Site	Local Authority Area
Habitat Creation & Management	Silverlink Park	North Tyneside
Habitat Creation & Management	Weetslade Colliery	North Tyneside
Habitat Creation & Management	Eccles/Fenwick Colliery Sites	North Tyneside
Habitat Creation & Management	Rising Sun Country Park	North Tyneside
Habitat Creation & Management	Brenkley North	Newcastle
Habitat Creation & Management	Newcastle Great Park	Newcastle
Habitat Management	Prestwick Carr LWS	Newcastle

IV. SUPPORTING ORGANISATIONS AND PARTNERS

	Partner/ Delivery Organisation
BC	Butterfly Conservation
BCT	Bat Conservation Trust
BTO	British Trust for Ornithology
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
ERIC	Environmental Records Information Centre – North East
FC	Forestry Commission
GMBC	Gateshead Metropolitan Borough Council
LWSP	Local Wildlife Sites Partnership
NMG	Northumberland Mammal Group
NBG	Northumberland Bat Group
NCC	Newcastle City Council
NE	Natural England
NERAG	North-East Reptile & Amphibian Group
New Uni	Newcastle University
NMG	Northumbria Mammal Group
NHSN	Natural History Society of Northumbria
NTBC	Northumberland and Tyneside Bird Club
NTC	North Tyneside Council
NWL	Northumbrian Water Ltd
NWT	Northumberland Wildlife Trust
RSNE	Red Squirrels Northern England
RSPB	Royal Society for the Protection of Birds
STC	South Tyneside Council
TRT	Tyne Rivers Trust