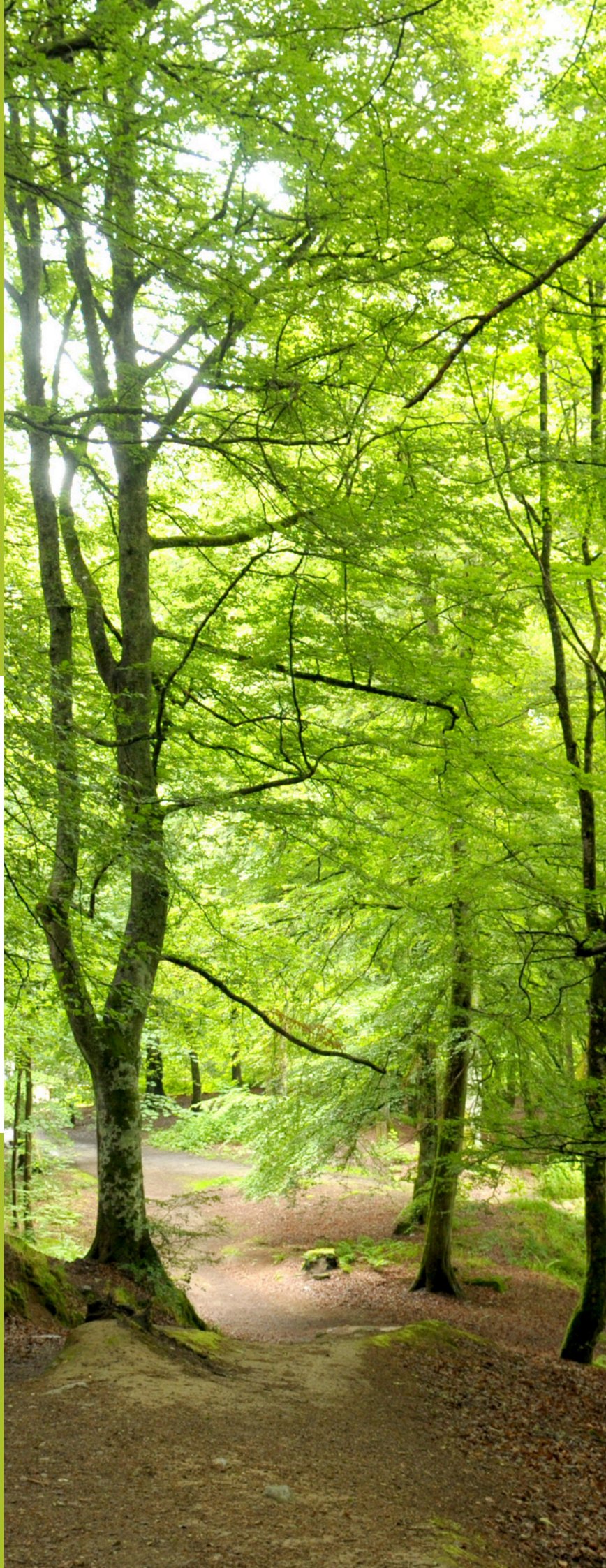


CONSIDERING MAMMALS IN LOCAL NATURE RECOVERY STRATEGIES

Advice for Responsible
Authorities

people's
trust for
endangered
species



CONSIDERING MAMMALS IN LOCAL NATURE RECOVERY STRATEGIES

Advice for Responsible Authorities



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ABOUT US

People's Trust for Endangered Species protects wildlife in Britain and around the world by bringing our most threatened species back from the brink of extinction. We do this through ground-breaking research, practical conservation and education with the help of landowners, scientists, government, conservationists and volunteers. With 45 years experience in wildlife conservation, our long-term monitoring programmes of threatened UK mammals have helped us track and understand the threats and conservation actions that affect many of our iconic mammal species.

WHY CONSIDER OUR SPECIES

Terrestrial mammals include some of the UK's most iconic and well-loved species. They are also some of our most threatened species, suffering acutely from habitat loss, pesticide use, invasive species and anthropogenic influence. With targeted conservation action, populations can recover. The Local Nature Recovery Strategies provide a unique opportunity to recognise actions to protect, preserve and enhance terrestrial mammal populations across the UK.

**45 years experience in
wildlife conservation**

PROCESS OVERVIEW

Create an LNRS species longlist

"Include species at high risk of extinction in England that are present in the strategy area; species which are not currently present, but could feasibly become established in the strategy area; and other species of local significance."



Create an LNRS species priority list

"The species priorities list should comprise a manageable number of deliverable species priorities, which may be individual species or species assemblages. It should focus on the species which LNRS can best support and reflect the species issues which are of greatest importance to the strategy area and local people and organisations."

-'Species Recovery within LNRS, Advice for Responsible Authorities' Natural England 2023

As per Natural England's guidance, responsible authorities (RAs) are instructed to make a 'species longlist' of all species which should be considered within the strategy area and narrow this down to a 'species priority list' of species which will benefit most from conservation action in the strategy area. This document aims to advise RAs in how to create their species longlist for UK threatened terrestrial mammals and refining this longlist into their species priority list.

- Identify which species to consider (using the provided specific criteria).
- Use local data to identify species meeting the criteria which are **geographically and ecologically relevant**.
- Evaluating pressures that affect species.

E.g. Hazel dormice in Devon – the species is present across the strategy area, GB red listed as Vulnerable, adapted to coppiced woodland, hedgerows and scrub, and threatened by climate change, habitat loss and fragmentation.

- Identify which terrestrial mammal species contained in your longlist the LNRS can best support.
- Consider if it is possible to create habitat-based assemblages (not always possible with terrestrial mammal species).

E.g. Hazel dormice in Devon – the species can be supported by appropriate woodland and hedgerow management and creation which will also benefit other threatened mammal species within hedgerow and woodland assemblages.



IDENTIFYING SPECIES TO CONSIDER

Responsible authorities should use local species data to identify which species are relevant to the strategy area. They should use LERCs and the NBN Atlas to help research this.

The species below link to The Mammal Society species hub or a PTES species information sheet for further information.

Critical to consider

Native species which have been assessed as **Red List Threatened and above** against GB IUCN criteria, or native species which are considered **Nationally Extinct that re-establish themselves in the strategy area** or are rediscovered.

- [Pine marten](#) – ENG IUCN Critically Endangered
- [Wildcat](#) – GB IUCN Critically Endangered
- [Eurasian beaver](#) – ENG IUCN Critical Endangered
- [Water vole](#) – GB IUCN Endangered
- [Red squirrel](#) – GB IUCN Endangered
- [Hazel dormouse](#) – GB IUCN Vulnerable – evidence to support move to Endangered.
- [West European hedgehog](#) – GB IUCN Vulnerable

Important to consider

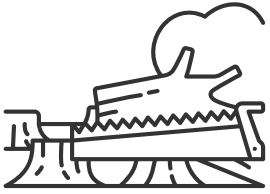
Native species which have been assessed as **Near Threatened** against IUCN criteria, and species Natural England suggest are **candidates for conservation translocation** – e.g. hazel dormice in certain counties.

- [Harvest mouse](#) – GB IUCN Near Threatened
- [Mountain hare](#) – GB IUCN Near Threatened
- [Pygmy shrew](#) – GB IUCN Least Concern
- [Water shrew](#) – GB IUCN Least Concern
- [Otter](#) – GB IUCN Least Concern
- [Polecat](#) – GB IUCN Least Concern
- [Brown hare](#) – GB IUCN N/A Non-native but naturalised species of conservation concern

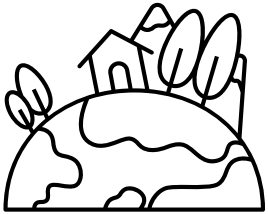


EVALUATE SPECIES PRESSURES

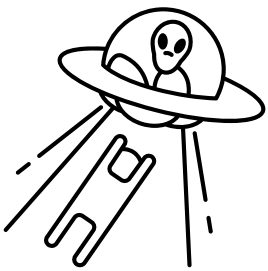
RAs are advised to identify species pressures both current and future which effect species on the long list. The following species pressures for terrestrial mammals are taken from the [UK State of Nature report](#). Specific individual species pressures are listed in the species information sheets linked above.



Habitat loss – Habitat loss is often the greatest threat to species survival. This can be loss through the destruction of habitat for development or agriculture, from disturbance events like flooding, or through lack of species-specific management e.g. coppicing hazel woodland for dormice.



Habitat fragmentation – Loss of habitat can cause the remaining habitat to exist in isolated patches. This increases edge effects – more degraded or different habitat conditions around the edge of the habitat fragment – which can make the habitat less suitable to its host species. It creates issues when species need to disperse over larger distances to find food or mate, as they are forced to travel through dangerous or exposed areas, and can create genetic bottlenecks in isolated populations, increase the risk of inbreeding.

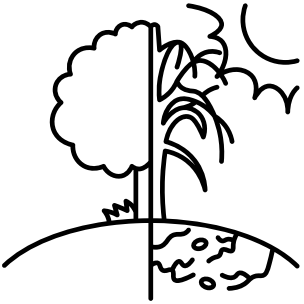


Invasive species – Invasive species can have detrimental effects on threatened terrestrial mammals. Invasive predators, such as the American mink, can have an extremely negative effect on water vole populations as they have not evolved together and so are not adapted to avoid the predation. Invasive species may also carry and transmit diseases to native species which they have not been exposed to, causing negative effects on native species survival.



EVALUATE SPECIES PRESSURES

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Climate change – Climate change is affecting most species across the UK. Changing temperatures across the seasons and more inconsistent temperatures can impact hibernating small mammals, as their natural cues from the temperature can determine the time they spend hibernating, meaning they hibernate too late or wake up too frequently, using too much energy and reduce their survival. Warmer weather will alter species' ranges, with some moving with their preferred temperature range and creating new competition interactions between species. Climate change will cause more disruptive and extreme weather patterns, increasing periods of drought and flooding. Providing more connected habitat will help species adapt their ranges in the face of changing climate pressures and species competition, and increase habitat resilience to disturbance events.



Pollution – Pollution of soils and waterways from anthropogenic chemicals such as agricultural runoff, insecticides and pesticides, industrial waste and chemicals can directly kill species or contaminate their habitat and food source.



CREATE SPECIES PRIORITY LIST

This list should include the species from the long list that can be best supported by the LNRS and will have the greatest importance to the strategy area and local people. It should be "short and manageable".

Species on the longlist should be assigned to the spatially evaluated categories below which determine their suitability to being supported by the LNRS in relation to their species pressures.

Some species may struggle to fit into one category, in which case it is best to identify the species' overriding pressures and prioritise action on that basis.

Species technical groups should be involved collaboratively in this process.

Information in the species info sheets should help RAs to identify which categories terrestrial mammal species fall into within their strategy area.

A	B	C	D	E	F	G
Needs more/ bigger/better connected habitat	Needs targeted habitat management	Needs improvements in environmental quality	Needs bespoke conservation action/s	Needs better evidence base/on- the- ground action is not a priority	Needs action outside England	Vagrants/ occasional visitors
Likely to benefit from LNRS measures generally and do not need to be singled out for specific LNRS measures	Suitable for LNRS species priorities	Suitable for LNRS species priorities	Suitable for LNRS species priorities	Not suitable	Not suitable	Not suitable
e.g. brown hare	e.g. hazel dormouse, hedgehog, harvest mouse	e.g. water vole	e.g. red squirrel, hedgehog, mountain hare	e.g. water shrew		



GROUP SPECIES INTO HABITAT ASSEMBLAGES

These are species groups which have **shared potential benefit** from the same recovery measures. Note that within habitat assemblages, individual species will have different habitat requirements, and **diversity in habitat and management within assemblages** will have the best outcome for benefiting multiple species.



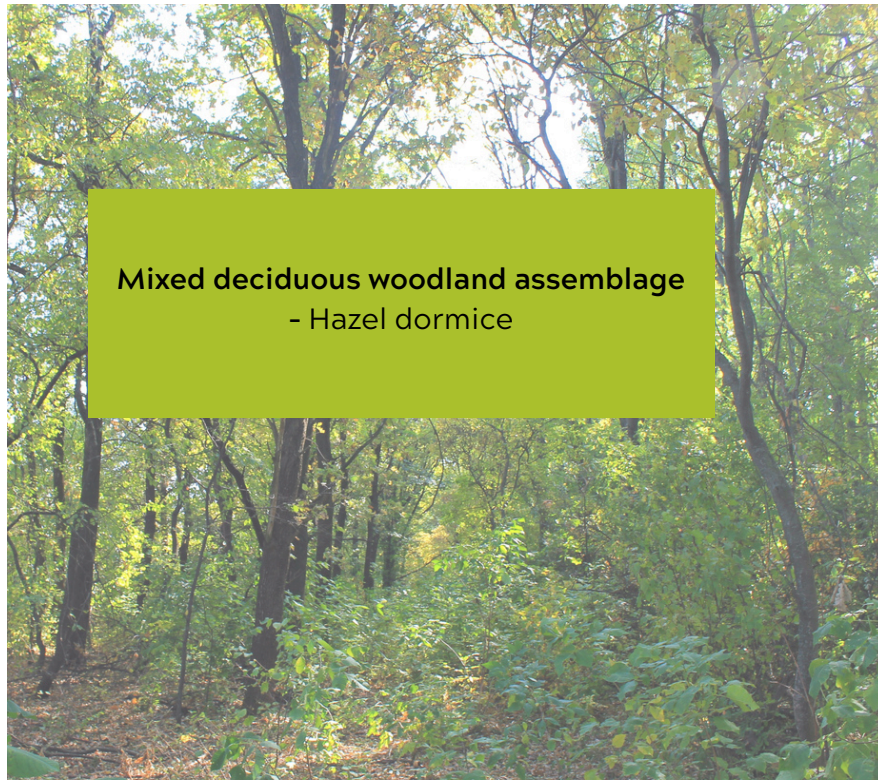
Waterways assemblage - rivers, river banks, wetlands

Water voles, otters, water shrews, beavers



Conifer and broadleaf woodland assemblage -

Red squirrels, pine martens, wildcats, polecats



Mixed deciduous woodland assemblage

- Hazel dormice



Hedgerow and linear habitat (railway and roadside) assemblage

Hazel dormice, hedgehogs



POTENTIAL MEASURES

Potential measures are practical actions which would contribute to the **recovery or enhancement of the priority species or habitat assemblage**. The following are some general conservation actions which can be taken to improve the outlook for terrestrial mammals, more detailed and bespoke conservation actions can be found in the species information sheets.

Identify and protect local priority sites

- Use all available data sources to identify key populations of priority species.
- Identify opportunities to link these priority sites through habitat corridors.
- Identify opportunities to reduce threats to create further key populations.

Protecting and enhancing riparian waterways

- Monitor and reduce pollution levels, particularly alongside intensively farmed areas and areas of residential development.
- Restore river banks with increased, diverse riparian planting and creation of diverse buffer strips (5-10m width).
- Create wetlands and restore natural floodplains.

Managing woodland

- Bring woodlands into appropriate management e.g. coppicing.
- Manage the canopy to reduce understory shading.
- Manage deer populations to reduce browsing pressure.
- Facilitate the development of a connected, shrub species rich and structurally complex, woodland understory.

Control invasive non-native species

- Support local action to control or remove INNS.
- Carry out monitoring and reporting of INNS through resources such as INNS Mapper app.
- Take part in landscape level eradication or control programmes such as the Waterlife Recovery Trust mink eradication project in east England.

Reducing anthropogenic interference

- Increase permeability in the urban and wider environment for example hedgehog highways, green bridges, suitable underpasses.
- Reduce the use of and promote careful landscaping machinery practices.
- Reduce light pollution.
- Promote responsible enjoyment of wildlife.



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Rejuvenating and expanding the hedgerow network

- Bring hedgerows into lifecycle management including periodic rejuvenation.
- Establish more hedgerow trees.
- Establish species rich hedgerows.
- Promote hedgerow management that routinely benefits wildlife such as incremental trimming and longer trimming rotations.
- Lay or coppice hedgerows which have passed their peak maturity to encourage dense base regrowth and ensures another lifecycle.

Supporting nature friendly farming

- Support farmers and farmer cluster groups to access and choose the right stewardship options to support priority species in the local area.
- Facilitate landscape level collaboration in habitat connectivity.
- Promote the importance of field margins to maximise their benefits for terrestrial mammals.
- Promote reduced, targeted and responsible use of pesticides and herbicides.



OVERLOOKED HABITAT

Habitat that falls outside protected areas. These habitats are often overlooked but can be enhanced and managed to benefit threatened terrestrial mammals.

Railway and roadside habitat

- Provides nesting habitat and corridors for many species e.g. hazel dormice.
- Coppicing roadside diverse scrub verges on long rotations (10-15 years) increases suitability of habitat for dormice
- New road developments should aim to establish a diverse roadside wooded habitat, particularly if the road is adjacent to suitable dormouse habitat or dormouse records exist within the area.

Brownfield sites

- Brownfield sites are listed as a Priority Habitat on Section 41 of the NERC Act 2006, and are home to some of the UK's most threatened invertebrate species.
- Consider the species found on site and the surrounding habitat to assess the importance of a brownfield site, both as a habitat and as a wildlife corridor in the wider landscape.
- A reactionary approach should be taken to management of brownfield sites. Traditional management may not always be appropriate for brownfield sites, for example mowing.

Diverse scrub

- Diverse scrub is often described as 'successional habitat' found between more open habitats like grasslands and more wooded habitats. It is of vital importance to many species that depend on it for their survival.
- Rotate management so there is a mix of young and mature scrub; this ensures more structural diversity and will appeal to a wider variety of species.

Urban mosaic habitat (amenity grassland, allotments, gardens)

- Enhancing greenspace within the urban environment can provide sanctuary for urban wildlife.
- Encouraging wildlife friendly gardening, green roofs, leaving space for wildlife in parks and allotments and mowing lawns less frequently can all help to provide more urban mosaic habitat.

Farm ditches and field boundaries

- Farm ditches can be rich in wildlife, providing spawning areas for frogs, habitat for newts, many insects like dragon and damsel flies, nesting areas for birds and habitat for water voles.
- Protect farm ditches by maintaining a 4-6m buffer strip, cut vegetation with care and on a rotational basis leaving one side uncut, maintain water for as much of the year as possible and restrict livestock entering the ditch.
- Field boundaries can be fantastic wildflower grassland habitat if left unmown and unsprayed.



HOW PTES CAN HELP

People's Trust for Endangered Species is available for advice and guidance on developing LNRs. Please don't hesitate to contact us by email if you wish for help in any of the areas below. enquiries@ptes.org

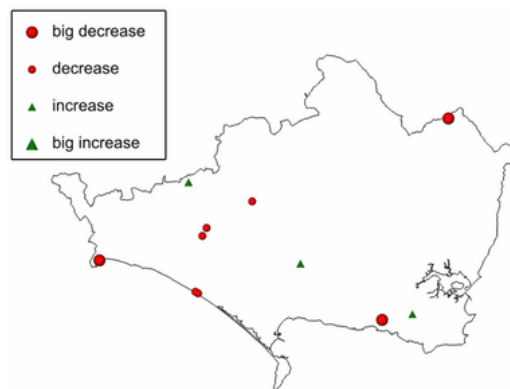


Accessing Data

- Data on priority species in your county is held by LERCs, the NBN and PTES.
- Data is collected through our long running monitoring programs the National Dormouse Monitoring Programme, the National Water Vole Monitoring Programme and the National Hedgehog Monitoring Programme.
- These datasets provide an indication of where species are present, which areas and habitats could support species and where improvement and connectivity efforts can be focused.

Data for mapping

- We hold local datasets for threatened species and provide a framework for collecting data and monitoring local efforts.
- These data can underpin local action plans & conservation objectives.
- Essential for mapping phase of LNRs.



Conservation expertise

- We are available to provide advice and information on habitat requirements, species ranges, conservation status, targets, threats, opportunities and potential actions.

National initiatives to support LNRs

- PTES work with the IUCN and eNGOs to develop conservation strategies of threatened small mammal species.
- We run National Monitoring Programmes collecting essential species data.
- PTES publishes 'State of-' reports for threatened species summarising population trends, range changes and threats.

