Focus Species Recovery Toolkit (Appendix C)

Taking action for species is of key importance to the Cornwall and Isles of Scilly Nature Recovery Strategy. Species have been an important part of the Opportunity Area map development, which were co-produced with the University of Exeter.

In developing this strategy, we have worked with a wide range of local and national species experts to help identify a list of priority species for the strategy and understand how to help recover them. Priorities and actions within this strategy have typically been selected for their ability to positively impact a wide range of these species.

Finding our locally important species

Whilst many species in Cornwall and the Isles of Scilly are under threat, it was important to create a list of species that this strategy could support. The first step was to create a long list of species which are important locally.

We used a range of information sources:

- General nature recovery survey
- Strategic organisation survey
- Existing evidence
- Local knowledge and expertise
- Records centres

From the long list, 100 focus species have been selected. These are species which have public and strategic support for recovery. They are a mixture of charismatic, locally distinctive and rare species which all need our help to recover. For more information about how this list was produced, please see our full methodology.

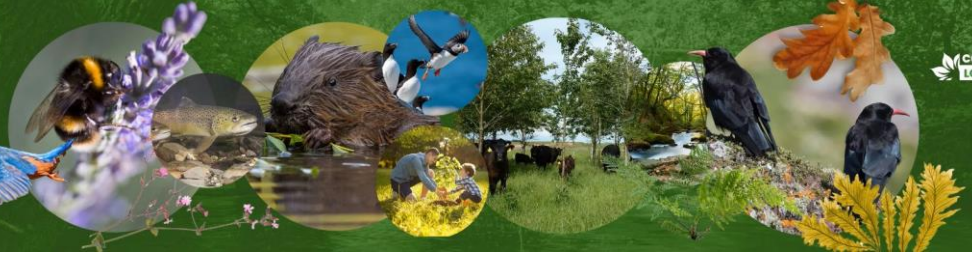
How to use this toolkit alongside the strategy

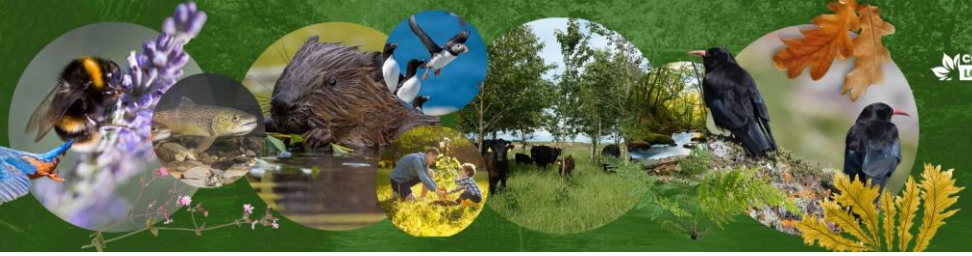
Within the strategy, focus species boxes can be found at the end of each priority to highlight which species could benefit if the actions were delivered. To take further action for species, this toolkit can be used to find species-specific actions which can be delivered alongside the actions within the written strategy.

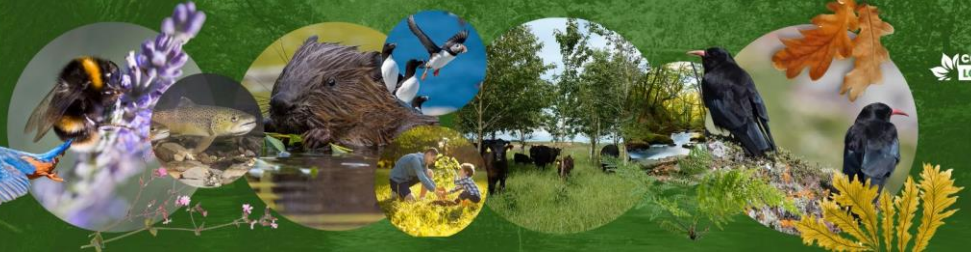
The focus species can be used to help narrow project and policy focus, and can be cited within funding applications to help further tie outcomes to the Cornwall and Isles of Scilly Nature Recovery Strategy.

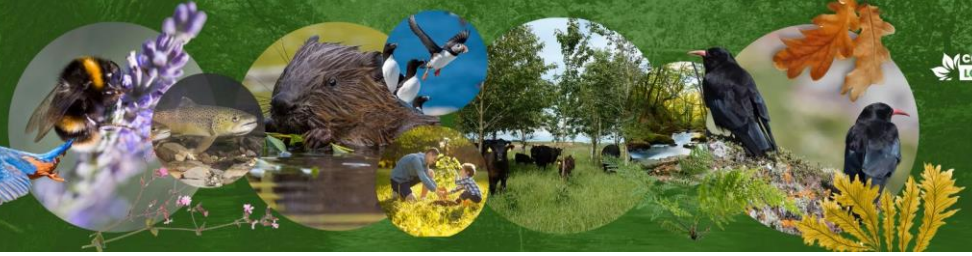
Navigating the document

Click here to go straight to the Isles of Scilly focus species









Cornwall

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Reptiles and Amphibians			
Adder *Vipera berus*	Adders rely on a range of habitats that provide open areas for basking including heathland, moorland, open woodland, mire, bog, acid grassland, calcareous grassland and coastal dunes.	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P6 • P7 • P8 Heath and Moor Mosaics • P12 Nature-rich Grasslands • P15 Coastal Wildbelt • P18 • P19	Provision of habitat mosaics across the wider landscape with scrub, heathland and connecting linear features including Cornish hedges and buffer strips. Retention of scrub cover within habitats for hibernation areas and to increase site connectivity. Use signage to inform the public of Adder presence and reminding them to keep to existing paths to increase public awareness and appreciation and reduce disturbance.
Common Toad *Bufo bufo*	Common Toads require a variety of natural, semi-natural and man-made habitats including rough grassland, woodland, hedgerows, farmland, parks and gardens.	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges	Increase connectivity between foraging, breeding and hibernation sites to reduce the need for toads to crossroads.

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	They are very faithful to breeding ponds, which are permanent water bodies like large ponds, lakes, gravel pits, ditches/dykes.	• P5 • P6 • P7 • P8 Rivers and Wetlands • P9 Heath and Moor Mosaics • P14 Nature-rich Grassland • P16 Town and Village Green and Blue Spaces • P22	Set up community toad patrols during the breeding season to help toads move across roads safely to get to breeding ponds.
Birds			
Bullfinch ***Pyrrhula pyrrhula***	A medium-sized to large finch, round in shape with a large bill, the Bullfinch breeds mainly in deciduous woodland. However, it will also be found in large gardens, thickets and churchyards. They are shy birds, staying mainly in cover and often only make their presence	Trees, Woodland and Scrub • P1 • P2 • P3 Town and Village Green and Blue Spaces	Provision of habitat mosaics across the wider landscape with native broadleaved woodlands connected by thick bushy hedgerows.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	known by their soft fluting calls. Bullfinches can damage fruit trees by grazing the buds in spring and have thus been controlled under licence.	• P22	
Chough ***Pyrrhocorax pyrrhocorax***	The 'national' bird of Cornwall, Chough have recolonised the county and can now be found along much of the coast. They nest along the rocky coastline and sometimes use abandoned structures. They need short, tightly grazed coastal grassland in which they forage for invertebrates for food.	Farmland, Hedges and Edges • P5 • P6 Nature-rich Grassland • P15 Coastal Wildbelt • P18	Manage coastal grassland with grazing by rabbits and livestock. Protection from disturbance while nesting. Highly likely to benefit from landscape scale low-input, grazed grassland habitat regeneration, expansion and restoration.
Cirl Bunting ***Emberiza cirlus***	The Cirl Bunting declined significantly as a result of agricultural intensification; the loss of winter stubbles with the adoption of autumn-sown crops in the 1970s, reduced invertebrate food in the breeding season and a loss of nesting sites due to unfavourable hedgerow management. The species is now restricted to South-West England, with a stronghold in	Farmland, Hedges and Edges • P5 • P6 • P7 • P8 Nature-rich Grassland • P15	Provision of habitat mosaics across the farmland landscape and promotion of mixed farming including a mix of arable, permanent pasture, livestock farming and hay meadows. Provision of suitable habitat including: ○ Spring sown cereals (esp. barley) ○ Weedy winter stubbles (incl. set-aside)

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	South Devon where conservation efforts have rebuilt the population to over 1,000 breeding pairs. A reintroduction project has been working to re-establish a breeding population on the Roseland Peninsula since 2006.		○ Rough grass margins along field edges ○ Dense, wide, bushy hedgerows ○ Supplementary feeding
Corn Bunting ***Emberiza calandra***	Corn Bunting have experienced a serious decline across the UK. They are a bird of open arable farmland with hedges, grassy field margins and corners. They need access both to seeds as their primary diet during the winter and invertebrates for their young in summer. They nest in rough grass margins or even suitable arable crops.	Farmland, Hedges and Edges • P5 • P6	Manage rough grass areas within arable farmland should only be cut or grazed over winter and in rotation to ensure continued availability of habitat across the farm. Provision of weedy over-wintered stubbles to provide seed. Supplementary feeding with seed and cereal grain over winter can help.
Cuckoo ***Cuculus canorus***	Cuckoos are summer visitors to the UK and forage on a range of insects but particularly hairy caterpillars. They are found primarily in open habitats including farmland, heathland, moors and mires, and wetlands.	Trees, Woodland and Scrub • P1 Farmland, Hedges and Edges • P5 Heath and Moor Mosaics • P12	Manage habitats to benefit invertebrates by providing beetle banks, set-aside, planting buffer strips around arable fields and restoring or creating semi-natural grassland.

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		• P13	
Curlew ***Numenius arquata***	Having suffered significant declines due to habitat loss and agricultural intensification, Curlew are now a scarce breeder in lowland Britain. The bulk of the breeding population favours wet grasslands and moorlands in northern England, Wales and Scotland. They do still appear on migration at wetlands throughout the country and are a relatively common wintering bird on tidal mudflats around the Cornish coast although their core wintering grounds are The Wash and Morecombe Bay. As with all wintering waders, they are vulnerable to disturbance by recreational users and bait diggers.	Farmland, Hedges and Edges • P5 • P6 Nature-rich Grassland • P15 Coastal Wildbelt • P18 Intertidal • P21	Promote best practice for bait digging. Undertake ground disturbance, e.g., through shallow cultivating in suitable nesting sites.
Dartford Warbler ***Curruca undata***	A species of lowland heathland which is restricted to the south and east of mainland England, the Dartford Warbler has recovered from the brink of extinction in the UK over the last 50	Heath and Moor Mosaics • P12	Favourable management of lowland heathland to maintain mosaics of mixed age-class heather and gorse and control scrub and trees.

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	years. The species has responded to habitat restoration and management and may have also benefited from climate change (milder winters). Feeding mostly on invertebrates, the Dartford Warbler is vulnerable to cold weather; the harsh winter of 1962/63 led to their near-extinction in the UK, with just 10 pairs left in Dorset. In Cornwall, the species is found on lowland heathland habitat predominantly around the coast with strongholds on The Lizard and Land's End. It probably benefits from Cornwall's mild climate. Recreation is a source of disturbance for this and other sensitive ground-nesting species of lowland heathland.		Deployment of measures to reduce disturbance during the breeding season, from people and free-running dogs.
Dipper *Cinclus cinclus*	Unique among British passerines, Dippers forage underwater for small invertebrates in fast-flowing streams. They are found on many of Cornwall's freestone and moorland rivers and streams.	Trees, Woodland and Scrub • P1 • P3 Rivers and Wetlands • P10	Improve water quality through addressing diffuse pollution and muddy run-off from agriculture, roads, industry and residential areas. Address storm surge sewage overflows.

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	Although Dipper numbers have fluctuated, there is an overall downward trend, which is of concern. The invertebrates which dippers favour are very sensitive to pollution, contamination and acidity, so Dippers are a good indicator for water quality.	• P11	Improve flood attenuation and storage in river catchments to reduce flash-flooding risks and extreme high flow events.
Kestrel ***Falco tinnunculuss***	A widely distributed species, which utilises a range of habitats, the Kestrel is one of our most familiar raptors. However, monitoring data have highlighted a decline in numbers, the causes of which remain unclear. In some areas predation by Goshawks may be a factor.	Farmland, Hedges and Edges • P5 • P6 • P7 Heath and Moor Mosaics • P12 Nature-rich Grassland • P15 Coastal Wildbelt • P18 Town and Village Green and Blue Spaces • P22	Creation and retention of rough grass areas within a mosaic of habitats across a landscape, will provide cover for small mammals, which are the kestrel's main prey. Kestrels will utilise nest boxes, so provision where there is an absence of suitable nesting sites can help the species.

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		Historic Mining Sites, Buildings and Quarries • P23	
Lapwing *Vanellus vanellus*	Once a common breeding bird over much of lowland Britain, Lapwing numbers have reduced significantly due to habitat loss, agricultural intensification and increased predation pressure exacerbated by reducing breeding numbers. In winter, the Lapwing is widely distributed but is now more common in the east of the country. It is also more commonly found on coastal wetlands as birds use tidal mudflats.	Farmland, Hedges and Edges • P5 • P6 Rivers and Wetlands • P9 Heath and Moor Mosaics • P12 Coastal Wildbelt • P18	Create “Lapwing plots” (small gaps deliberately left within crops) within arable fields. Sow spring cereals rather than autumn cereals. Delay or adjust the timing of mowing, grazing or crop cultivation activities. Short-term predator protection e.g., predator fencing may be needed at breeding sites.
Mistle Thrush *Turdus viscivorus*	Found throughout Britain, the Mistle Thrush population has declined since the late-1970s, putting the species on the UK Red List since 2015. Causes of the decline are not fully understood, but declines have been more significant on farmland suggesting that habitat degradation could be one factor.	Trees, Woodland and Scrub • P1 • P2 • P3 Farmland, Hedges and Edges • P5 • P6 Heath and Moor Mosaics	Provision of hedgerow and woodland habitat, managed for wildlife (including good quality nesting cover in woodland). Provision of habitat mosaics across the farmland landscape including grazed grassland alongside arable and damper soils in summer.

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	The species occurs across Cornwall though appears more common towards the east and absent from far west and southern extremities of The Lizard. It may be found wherever there is suitable habitat.	• P12 Town and Village Green and Blue Spaces • P22	
Nightjar ***Caprimulgus europaeus***	The Nightjar is a summer visitor, wintering mainly in the scrub dominated grasslands of the Democratic Republic of Congo. It breeds in primarily on lowland heathland across the southern half of Britain. The species declined due to habitat loss to agriculture and afforestation. More recently, it has increased in population and range, largely due to colonisation of recently-felled plantation woodland and climate change. It occurs in areas of suitable habitat across Cornwall.	Trees, Woodland and Scrub • P1 • P3 Heath and Moor Mosaics • P12 Nature-rich Grassland • P15	Favourable management of lowland heathland to maintain mosaics of mixed age-class heather and gorse and control scrub and tree encroachment. Deployment of measures to reduce disturbance during the breeding season, from people and free-running dogs.
Osprey ***Pandion haliaetus***	Our only fish-eating bird of prey, the Osprey is a summer visitor, which breeds across Scotland and northern England. Individual birds pass through	Intertidal • P21	Provision of artificial nest platforms at suitable locations may attract birds in time.

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	Cornwall on passage hunting over our estuaries in spring and autumn. Having gone extinct as a breeding bird in Britain in the early 1900s, a single pair colonised Scotland in 1955 and the population has grown steadily since. Through reintroduction programmes Ospreys now breed in both England and Wales though not to date in Cornwall despite efforts to install artificial nest platforms.		
Oystercatcher ***Haematopus ostralegus***	Oystercatchers breed widely, both around the coast and inland, particularly in northern Britain. During winter, large flocks congregate on our estuaries. The breeding and wintering population has declined by over 20% since the mid-1990s. Oystercatchers can be found around the Cornish coast at all times of year. They nest in open bare or short vegetated ground such as saltmarshes, sandy or shingle beaches, fields and occasionally rocky coasts. Though little is known	Farmland, Hedges and Edges • P5 • P6 Rivers and Wetlands • P9 Nature-rich Grassland • P15 • P16 Coastal Wildbelt • P18	Improvement of breeding habitat for waders may also improve breeding success for Oystercatchers. Maintaining, restoring and creating saltmarsh and other wetland habitats. Less intensive management of grasslands (including reduced drainage to raise water). Ensure the needs of Oystercatchers are considered when planning flood defence work.

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	about population changes in Cornwall, they are likely to reflect national trends.	Intertidal • P21	Management and protection of shellfish populations at key wintering sites.
Ringed Plover *Charadrius hiaticula*	Ringed Plover can be found around most of the British coast, though is less common in the south-west. They nest on open shingle areas, their eggs being perfectly camouflaged amongst the stones. They will also breed inland on disused gravel bits and river margins. Non-breeding birds are present during the summer at a few primarily coastal sites in Cornwall. It is more numerous in tidal estuaries and wetlands over winter. Disturbance at coastal sites, due to increasing visitor numbers, is a significant factor in reducing breeding success.	Rivers and Wetlands • P9 • P10 • P11 Coastal Wildbelt • P19 Intertidal • P21	Manage shingle habitat and remove vegetation where appropriate to maintain nesting habitat. Maintaining sparse sward by grazing or mowing, bordering wetlands. Reduce pollution and contaminants of open shorelines and coastal habitats.
Skylark *Alauda arvensis*	Skylarks are one of the core farmland bird species in the UK. The population has fallen precipitously since the mid-	Farmland, Hedges and Edges • P5 • P6	Landscape scale approach to habitat enhancement including: ○ 'Skylark plots' (small gaps deliberately left within crops by

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	1970s but has shown a small upturn in recent years. Skylarks breed in diverse habitats including saltmarsh, coastal and lowland unimproved grassland, moors and heathland. They nest in dense grass tussocks. In the winter, Skylarks often form large flocks on farmland, saltmarsh and dunes. Although they can lay up to four clutches a year, breeding success has been limited by agricultural intensification, in particular the move from spring to autumn crops and the consequent reduction in winter stubble.	Heath and Moor Mosaics • P12 Nature-rich Grassland • P15 Coastal Wildbelt • P18	turning off the drill at time of sowing) ○ Delayed mowing or reduced cuts on silage fields ○ Reduced stocking densities ○ Weedy winter stubbles (incl. set-aside) ○ Rough grass margins along field edges
Starling ***Sturnus vulgaris***	Despite a decline in numbers, Starlings are relatively common across Britain. The population increases dramatically over winter with the arrival of birds from Northern Europe and larger winter roosts can number over a million birds. Due to a sharp decline in the breeding population since the 1960s, the species is on the UK Red List.	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P5 • P6 Nature-rich Grassland • P15	Provision of habitat mosaics across the farmland landscape including creation of permanent pasture. Manage grassland by grazing or mowing to create short swards for fledgling birds, but maintaining moisture to support Crane Flies (tipulids) which are an important prey item.

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	In rural areas, intensification of pastoral farming and livestock husbandry coupled with the loss of permanent pasture are likely causes through reducing available foraging habitat. Around 60% of the population is found in urban areas where the causes of decline are less understood. Starlings can be found in any suitable open habitat across Cornwall including grassland, grazed cattle meadows and pasture especially if unimproved. Numbers increase dramatically during winter when large roosts form at sites including Marazion Marsh and Bodmin Moor.	Town and Village Green and Blue Spaces • P22	Reduce the use of insecticides on grasslands (and Ivermectins to dose cattle) to improve food biomass. Create space for Starlings in building design/maintenance (including nest boxes).
Swift ***Apus apus***	Swifts spend most of their life in flight, and are summer visitors to the UK. They pair for life, and return to the same nest site each year. Although widespread across much of Britain, there has been a significant decline in the population. Reasons are likely to include poor summer weather,	Farmland, Hedges and Edges • P5 • P6 Rivers and Wetlands • P9 • P11 Nature-rich Grassland	Mixed farming systems and provision of habitat mosaics across the farmland landscape including permanent pasture, livestock farming and hay meadows. Likely to benefit from landscape scale wetland habitat regeneration, expansion and restoration, as very large numbers of Swifts aggregate to feed over such

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	a decline in insects and loss of suitable nesting sites. Swifts are widespread across Cornwall and the population trend is likely to reflect that of the rest of the country. Cornwall Birds (CBWPS) launched a Save our Swifts campaign in 2021, and Wildlife Groundswell did a similar project on the Lizard Peninsula, to encourage people to put up nest boxes survey breeding colonies.	• P15 • P16 Coastal Wildbelt • P18 Town and Village Green and Blue Spaces • P22	habitat in spring and autumn in particular. Incorporate swift nest bricks into all new build properties. Encourage people and businesses to put up swift nest boxes on residential and commercial buildings. Raise awareness among the community and businesses of the need to help provide nest sites for swifts.
Tawny Owl ***Strix aluco***	Our most common owl, the Tawny Owl lives primarily in broad-leaved deciduous woodland but may also be found in coniferous woodlands and even suburban gardens and parks. It nests in cavities and availability of suitable cavities may be a limiting factor for the population. There is some concern that the species may be experiencing long-term population decline, so it was added to the Amber List in 2015.	Trees, Woodland and Scrub • P1 • P3 Farmland, Hedges and Edges • P5 • P6 Town and Village Green and Blue Spaces • P22	Provision of nest boxes in suitable habitat. Increased native broad-leaved woodland cover across Cornwall would benefit the species. Mosaic of habitats in the landscape.

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Willow Tit *Poecile montanus*	The Willow Tit is a sedentary species that prefers damp, young, regenerating woodland containing old dead wood. Willow Tit numbers have fallen sharply since the mid-1970s and the species has been Red-listed since 2022. It has also become locally extinct in many of its former haunts, especially in southern and eastern Britain. Habitat deterioration is thought to be a main driver, although competition from other tit species and predation pressure may be factors. Willow Tit is restricted to only a few sites in the centre and east of Cornwall.	Trees, Woodland and Scrub • P1 • P3	Creation, restoration and favourable management of wet woodland (woodland with moist soils) in suitable locations. Woodland to comprise a mix of silver birch, elder and alder and incorporate standing dead wood. Promotion of healthy understorey habitat including control of deer browsing. Do not provide supplementary food and nest boxes (which benefit competitor species) within and near Willow Tit strongholds.
Yellowhammer *Emberiza citrinella*	Widely distributed, the Yellowhammer can be found from the northern tip of Scotland to the most south westerly tip of Cornwall. It is a bird of farmland and is one of the 19 species that make up the UK Farmland Bird Indicator. Unlike other farmland birds, the Yellowhammer population was stable	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P5 • P6 • P7 • P8	Provision of habitat mosaics across the farmland landscape and promotion of mixed farming including a mix of arable, permanent pasture, livestock farming and hay meadows. Provision of suitable habitat including: ○ Spring sown cereals (esp. barley)

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	until the mid-1980s, from when it declined, suggesting that it alone was affected by some change that occurred in the 1980s. The decline appears to be primarily due to variation in adult and first-year survival which may be due to reduced food availability as a result of agricultural intensification.		○ Weedy winter stubbles (incl. set-aside) ○ Rough grass margins along field edges ○ Dense, wide, bushy hedgerows ○ Supplementary feeding
Migratory fish			
Allis Shad *Alosa alosa*	Allis Shad breed in freshwater, usually within rivers but sometimes in tidal water, and then the juveniles migrate out to coastal waters. Only known spawning populations are in the Tamar River, but some evidence of activity in other Cornish estuaries.	Rivers and Wetlands • P10 • P11	Apply catch limits to allow numbers to increase.
Atlantic Salmon *Salmo salar*	Salmon return to rivers from the sea, to spawn in fast flowing, well oxygenated water over clean gravel/pebble/cobble substrates. Salmon stocks have declined nationally since the 1970s/80s and continue to do so, although stocks have generally	Rivers and Wetlands • P10 • P11 Intertidal • P21	Apply catch limits (or catch and release) to allow numbers to increase. Create spawning habitat of clean gravel/pebble/cobble substrates within fast flowing, well oxygenated water.

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	declined more in the south of England, than in the north. All salmon rivers in Cornwall have a juvenile monitoring programme.		
Brown/Sea Trout *Salmo trutta*	Sea Trout are distributed more widely throughout Cornish rivers, compared to Salmon, so the opportunities to improve species recovery aren't limited to the larger rivers. Juvenile Sea Trout live in rivers for 2-3 years before migrating to the sea to feed.	Rivers and Wetlands • P10 • P11 Intertidal • P21	Apply catch limits to allow numbers to increase. Create areas of cover within freshwater rivers to provide breeding habitat, including deeper areas (pools, runs and glides), undercut banks and submerged vegetation (treefalls and trash dams).
European Eel *Anguilla anguilla*	Eels will migrate up vertical cliff faces, over land, through subterranean fissures, ditches, sewers, drains etc and are found in virtually every watercourse within Cornwall. Pigmented elvers migrate into freshwater river channels around April and May. They then disperse further upstream as they grow. Juvenile or 'yellow' eels spend several years in freshwater in rivers, streams and lakes	Rivers and Wetlands • P9 • P10 • P11 Intertidal • P21	Installing eel and elver passes at migratory barriers within rivers and streams. Create areas of cover within freshwater habitats e.g., boulders, woody debris, overhanging banks and tree roots. Incorporate Eels into management plans for turbines and abstraction intakes, using measures such as screening or behavioural deterrents.

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	until they reach maturity and migrate to marine spawning grounds. Populations have experienced massive declines since the 1960s-1980s in Cornwall.		
Sea Lamprey ***Petromyzon marinus***	Sea Lamprey are the largest of the three lamprey species in the UK. They are a migratory fish laying their eggs in clean, sandy gravels in rivers. The young larvae then move to the soft marginal silt of the river to grow, feeding on the algae, bacteria and detritus in the mud. When they are ready, they will migrate to sea and start to feed parasitically on other fish by attaching themselves with their sucker-like mouths. Preferentially seek to spawn in larger rivers including: Camel, Fowey, Looe, Lynher and Tamar.	Rivers and Wetlands • P10 • P11 Intertidal • P21	Limit river engineering at spawning and nursery habitats.
Smelt ***Osmerus eperlanus – Tamar only***	Smelt are primarily an estuarine or coastal fish, migrating into freshwater over the winter to spawn in spring, either in rivers or upper estuarine tidal	Rivers and Wetlands • P10 • P11	Apply catch limits to allow numbers to increase.

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	reaches. They spawn in shallow, fast flowing riffle habitat over a substrate of gravel, pebble and cobble. Currently only Tamar populations are known in Cornwall. Smelt remain close to the seabed and favour the channel habitat where they forage for pelagic and demersal invertebrates and fish.	Intertidal • P21	Promote codes of practice for bait digging and recreational angling to ensure individuals adhere to local byelaws and regulations. Limit dredging in estuarine spawning sites.
Freshwater Invertebrates			
Pond Mud Snail ***Omphiscola glabra***	Cornwall population is significant in a national context. Pond Mud Snails do not survive in permanent ponds and live in small shallow stands of water prone to drying out.	Farmland, Hedges and Edges • P5 • P6 Rivers and Wetlands • P9 • P11 Nature-rich Grassland • P16	Maintain small, shallow ponds and temporary pools and avoid drainage, unnecessary clearance, infilling and deepening. Prevent pollution and eutrophication by avoiding fertiliser use near ponds, or in areas that might drain into a pond. Management should be on a rotational basis, with any essential dredging limited to less than 50% of the pond in any two-year period.

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			Restore natural drainage patterns across rough pastures and maintain sustainable livestock grazing regimes. Cattle stocking densities need to be carefully balanced and low enough to prevent water bodies becoming overgrown or excessively poached and eutrophic from overstocking. In some cases, the exclusion of livestock or the use of water troughs can help protect this vulnerable habitat. Ideally, the habitat should be wet in most years over the winter and spring period to allow the snails to breed. Note that the complete drying of some ponds, particularly in hot summers is normal.
Small Red Damselfly ***Ceriagrion tenellum***	Nationally scarce and declining, Cornwall is now a stronghold for Small Red Damselfly. They are highly sensitive to climate change. The larvae need shallow unshaded bog pools and seepages. Marsh St. John's-wort *Hypericum elodes* is often associated with good Small Red	Farmland, Hedges and Edges • P7 Rivers and Wetlands • P9 • P11 Heath and Moor Mosaics • P12	Restore natural drainage patterns across wet heaths and moorland and maintain sustainable livestock grazing regimes. Maintain small, shallow ponds and temporary pools and avoid drainage, unnecessary clearance, infilling and deepening.

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	Damselfly habitats on the moors. Old tin streaming and China Clay sites throughout the county have also been strongholds in the past. Causes of decline include scrub encroachment and desiccation of shallow wet flushes through climate change and increasing drought conditions. The loss of heritage mining habitat through natural succession or landscaping initiatives is also significant.	• P14 Nature-rich Grassland • P16 Historic Mining Sites, Buildings and Quarries • P23	Maintaining open habitats around bog pools and seepages. Control scrub to encourage and sustain populations of Marsh St John's-wort. Connect existing Small Red Damselfy sites to promote dispersal.
Terrestrial Invertebrates			
Blue Ground Beetle ***Carabus intricatus***	Britain's largest ground beetle, the Blue Ground Beetle was considered extinct in the UK until 1994, where it was rediscovered in 15 sites across Cornwall, Devon and South Wales and has been a focus species for Buglife. Adult beetles are active from late March until June, and are found often in the same habitat as the Serrated Tongue-spider *Centromerus serratus,* in damp, deciduous woodlands of Oak and Beech	Trees, Woodland and Scrub • P1 • P3 Rivers and Wetlands • P11	Maintaining / restarting light grazing regimes in ancient woodland, with a sparse understorey of vegetation. Limit grazing between November-March. Retain standing and fallen dead wood, with a particular focus on standing dead trees and trees with dead branches. Some sections of fallen trunks may be "planted" in the ground to simulate rotten tree stumps. These are less prone

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	trees and often on south-facing slopes of river valleys. Most sites are ancient pasture woodlands with sparse ground vegetation, high humidity and an abundance of mosses. In Cornwall it has also been found in a young beech plantation adjacent to an ancient Oak woodlands. Their biggest threat is the loss of ancient woodland, as they need plenty of deadwood habitats.		to desiccation than fallen timber left lying on the woodland floor. Restore historic wood pasture and parkland habitats.
Heath Fritillary ***Melitaea athalia***	Heath Fritillary's principal host plants are Common Cow-wheat (*Melampyrum pratense*), Germander Speedwell (*Veronica chamaedrys*) and Ribwort Plantain (*Plantago lanceolata*). These are early successional plants in coppiced woods and woodland rides. There are only a few remaining colonies in the south of England. The species became effectively extinct in Cornwall early in the millennium and was reintroduced in 2006 at Greenscombe Wood.	Trees, Woodland and Scrub • P1 • P2	Create areas of fresh and early succession flora through coppicing and scrub management, particularly on steep slopes at existing sites. Ensure management is maintained to provide new areas of open habitat each year, with a particular focus near to know sites. Restore Oak / Hazel coppice woodland.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Declines are driven by loss of habitat and lack of management, especially a reduction of coppicing and overgrown rides and clearings.		
Grayling ***Hipparchia semele***	Predominantly found in grassy heathland and coastal grassland with rocky outcrops. Requires host plants of fine-leaved grasses including Sheep's Fescue (*Festuca ovina*) and Bristle Bent (*Agrostis curtisii*). Needs short swards with bare patches and outcrops to support thermoregulation and courtship.	Heath and Moor Mosaics • P12 Nature-rich Grasslands • P15 Coastal Wildbelt • P18	Manage grassland and coastal heathland with grazing regimes which create and maintain areas of short sward with bare patches and reduced scrub encroachment. Manage areas to reduce impacts of drought, particularly during larval stage. Focus management in existing sites including the hills of Penwith, such as at Carn Kenidjack and Mulfra Hill, and coastal colonies between Chapel Porth and St Agnes.
Large Scabious Mining Bee ***Andrena hattorfiana***	Large Scabious Mining Bees feed almost exclusively on Field Scabious which requires calcareous soils. Sandier soils provided by dunes create the ideal habitat, with bare ground and early successional habitat for nesting.	Coastal Wildbelt • P19	Reduce fertiliser use around key sites in north Cornwall (the Towans, Penhale and Rock). Collecting local Field Scabious seeds, growing them into plug plants and

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Cornish populations are restricted to fragmented and small colonies, with declines linked to loss of tall scabious-rich dune-edge grassland and widespread scrub succession from loss of traditional grazing. Other drivers include intensive agriculture conversion, inappropriate tree planting (not following right tree right place principle), in-organic fertilizer use and high rabbit populations.		planting them at key sites to provide food sources. Manage hay cuts using a late hay-cut regimes (August/September) to allow Field Scabious to set seed. Restoration and support of traditional grazing and/or meadow management in to avoid scrub encroachment of Field Scabious sites.
Long-horned Bee ***Eucera longicornis***	The Long-horned Bee is associated with coastal legume-rich (pea family) grassland and soft cliffs. It can also be found on mine sites and species rich inland meadows, often with Meadow Vetchling and Tufted Vetch. The Long-horned Bees require large areas of flower-rich habitat, and have been severely impacted by the 97% declines in flower-rich grassland in the 20th Century.	Farmland, Hedges and Edges • P8 Nature-rich Grasslands • P15 Coastal Wildbelt • P18	Restoration and ongoing management of meadows and ruderal habitats. Manage hay cuts using a late hay-cut regimes (August/September). Create legume-rich wildflower areas to provide new foraging habitat. Maximise the abundance of flowering legumes between May and early July, such as Meadow Vetchling, Kidney Vetch, clovers and Bird's-foot Trefoils. Preferably over a number of fields within a farm.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	The bee, along with its food plants in the pea family, is affected the lack of economic value of grazing on difficult coastal and moorland slopes causing widespread scrub succession. It is also sensitive to climate change - particularly storm surges which damage soft cliff nest sites.		Hay-cutting and other mowing (e.g., on sea walls) should be avoided until 15th July, and areas of pasture should be left ungrazed between 15th April and 15th July. In species-rich grassland, avoid applying fertilisers and herbicides and remove arisings after any cutting. Manage encroaching vegetation such as coarse grasses, bramble or scrub around nesting sites in bare ground or sparsely vegetated areas. Encourage an extensive habitat mosaic that affords plentiful foraging and nesting habitat in close proximity. A well-designed farm plan could be crucial in providing stepping stones and corridors to link suitable sites.
Marsh Fritillary ***Euphydryas aurinia***	Marsh Fritillary lays its eggs on Devil's-bit Scabious *Succisa pratensis*. In Cornwall, this plant tends to grow in damp meadows and marshes, and also in some grassy, tussocky heaths.	Heath and Moor Mosaics • P12 • P14 Nature-rich Grasslands	Manage heathland using traditional scrub burning and cutting. Allow areas of scrub to remain to provide over-wintering habitat for larvae.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Scrub is needed to provide shelter and protect the larvae over winter, but overdevelopment of the scrubland is damaging.	• P15	Implement light, seasonal grazing with cattle or ponies.
Moss Carder Bee ***Bombus muscorum***	The Moss Carder Bee can be found in coastal species rich grassland, dune sites and heathland, though historically it had a more widespread habitat usage. It is commonly confused with the Brown-banded Carder Bee B*ombus humilis*, though prefers wetter and likely cooler sites. Historic causes of decline include loss of species rich meadows, agricultural change including increased inorganic fertilizer use, and over-grazing and under-grazing of coastal and upland moors/heathland. It is very sensitive to climate change.	Farmland, Hedges and Edges • P5 • P6 Heath and Moor Mosaics • P12 Nature-rich Grassland • P15 Coastal Wildbelt • P18	Restoration and support of traditional grazing and/or meadow management. Manage hay cuts using a late hay-cut regimes (August/September). Key conservation areas are North Cornwall, Lands End and the Lizard.
Pearl-bordered Fritillary ***Boloria euphrosyne***	Pearl-bordered Fritillary can be found in areas of bracken / gorse scrub, with plentiful common violets such as Common Dog Violet and Marsh Violet.	Trees, Woodland and Scrub • P1 • P2 • P3	Introduce coppicing into woodland management regime.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Most sites in Cornwall are steeply sloping. Bracken / gorse litter is important in protecting overwintering larvae from the elements. In east Cornwall they are found in woodland clearings and rides, damp meadows and a small stretch of unstable coastline. Historic declines have been driven by cessation of woodland coppicing and management.	Farmland, Hedges and Edges • P8 Heath and Moor Mosaics • P12 Coastal Wildbelt • P18 Historic Mining Sites, Buildings and Quarries • P23	Maintain open habitats within woodlands. Removal of invasive saplings from known sites.
Perkins Mining Bee ***Andrena rosae***	Perkins Mining Bee is a double brooded species, meaning the first bees that hatch in the year then go on to create their own nests later in the year. The spring brood (March-May) favours scrub edge habitats with Blackthorn and Salix species. The summer brood (July-September) are associated with taller ruderal habitats with Hogweed, Bramble and Angelica.	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P7 • P8 Rivers and Wetlands • P11 Heath and Moor Mosaics • P12	Restoration and support of traditional moorland grazing and/or wet meadow management. Conserve areas of ruderal habitats with Angelica. Angelica is a binannual. Scrub cut these areas between October to March. Rake or disturb an area in September and directly sow freshly collected Angelica seed from sites as local as possible in disturbed area.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	It is associated with scrub edge, inland wet heaths and ruderal habitats, needing bare ground and early successional habitat for nesting. Causes of decline include loss of species-rich meadows and agricultural intensification with increased in-organic fertilizer use. It is negatively affected by lack of grazing on difficult coastal and moorland slopes, causing widespread scrub succession. The species is vulnerable to climate change, as it is associated with cooler maritime and moor sites. In west Cornwall, reduced grazing of marginal wet sites may have caused a temporary increase in tall angelica-rich habitat, but this often transitions to wet woodland which is unsuitable for the Perkins Mining Bee.	Historic Mining Sites, Buildings and Quarries • P23	Protect areas of flowering scrub and taller ruderal habitats. These areas need occasional cutting regimes rather than complete abandonment. Key focus areas throughout west Cornwall, particularly coastal and moorland sites on Land's End.
Sandhill Rustic ***Luperina nickerlii subsp. Leechi***	This subspecies of moth was discovered in 1974 and is only found on Loe Bar. It is associated with Sand Couch grass which serves as a larval foodplant.	Intertidal • P21	Another population could be established on a suitable sand/shingle site in Cornwall, to increase population

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Regular disturbance (e.g., by sea waves and visitor pressure) prevents build-up of dense vegetated sward which would crowd out Sand Couch. The population of the Sandhill Rustic varies significantly over the year but has a largely stable population, though rising sea-levels and extreme weather are increasing pressures.		resilience (translocating Sand Couch and shingle). Habitat restoration is only required if decreasing in area and condition e.g., by being washed away by storms, covered in shingle by high waves, or becoming dominated by a dense grassland sward.
Silver-studded Blue ***Plebejus argus***	Stable population in Cornwall though decreasing nationally, the Silver-studded Blue butterfly can be found in short sward with some scrub to offer sun-basking and roosting locations, in grassy heathland and coastal grassland. Its principal food plants are Bird's-foot-trefoil and Greater Bird's-foot-trefoil, though various heathers are eaten by the larvae. Several *Lasius* ant species play an important part in the life cycle. The most prolific Cornish colonies are found on the north coast in stabilised sand dunes or towans north of Hayle	Heath and Moor Mosaics • P12 Nature-rich Grassland • P15 Coastal Wildbelt • P18 • P19 Historic Mining Sites, Buildings and Quarries • P23	Encouragement of sand dune floral succession with shallow scrapes. Introduction of controlled grazing regimes, with cutting and removal of tall scrub and saplings. Penhale Sands is key area for conservation and monitoring, along with smaller colonies on the Lizard.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	and Perranporth. Key causes of decline are loss of habitat through agricultural improvement of coastal grassland and former mining site dumps, and loss of short sward due to lack of grazing and natural succession of coastal grassland and sand-dune flora.		
Tormentil Mining Bee ***Andrena tarsata***	Named after the Tormentil flower (*Potentilla erecta*) which they use to collect pollen to provide food for their larvae. They can be seen nesting in groups (aggregations), but each nest is independent, hence their name as solitary bees. Cornwall is a stronghold for the species. They require a variety of acid habitats where tormentil, marsh and shrub cinquefoil are found. Habitats include heathland, moorland, acid grassland, rush pastures and glades or rides in native or plantation conifer forests.	Farmland, Hedges and Edges • P5 • P6 Heath and Moor Mosaics • P12	Avoid cutting or heavy grazing between March to September to maximise the abundance of tormentil flowers. Manage known nesting sites by removing grass and coarse grasses to prevent encroachment. Manage woodlands, acid grasslands (including road verges), heathland, disused quarries and brownfield sites to maximise tormentil by cutting patches of grassland down to 3 cm height.
Tormentil Nomad Bee ***Nomada roberjeotiana***	Nomad bees act in a similar way to cuckoos and this particular species lays	Farmland, Hedges and Edges • P5	Avoid cutting or heavy grazing between March to September to maximise the abundance of tormentil flowers.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	its eggs in the nest sites of the Tormentil Mining Bee (*Andrena tarsata*). The Cornish population is nationally significant.	• P6 Heath and Moor Mosaics • P12	Manage known nesting sites by removing grass and coarse grasses to prevent encroachment. Manage woodlands, acid grasslands (including road verges), heathland, disused quarries and brownfield sites to maximise tormentil by cutting patches of grassland down to 3 cm height.
Western Ground-spider ***Gnaphosa occidentalis* – *Lizard only***	Cornwall has the only populations of Western Ground-Spider in the UK, found in areas of clifftop grass and heathland under loose stones. Only known current active sites are Kynance Cove, Penhale Point and Gwennap Head. Declines are attributed to scrub encroachment on short sward grassland and visitor pressure. The site at Penhale is threatened by development where there are plans to turn the abandoned MOD base to housing. This will constrict the population to the cliff edge, leaving it with very little space for expansion.	Coastal Wildbelt • P18	Clearance of scrub to promote open maritime grassland, and appropriate grazing to maintain short sward height.

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Mammals			
Badger *Meles meles*	Badgers are omnivorous and generally dig long-lasting setts under cover of woodland and scrub with nearby pasture or grassland, where they forage for earthworms and other invertebrates. They also feed on small mammals, birds and carrion as well as fruit and grain crops, especially maize.	Trees, Woodland and Scrub • P1 Farmland, Hedges and Edges • P7 • P8 Nature-rich Grassland • P15 Town and Village Green and Blue Spaces • P22	Protecting Badger setts. Keep Badgers and cattle separate, especially at supplementary feeding stations and Badger latrines, to reduce transmission of TB. Undertake Badger TB vaccination programmes.
Beaver *Castor fiber*	Beavers can provide many environmental benefits and ecosystem services, and can also be destructive in certain situations and so require management. Requires year-round access to slow-flowing freshwater, ideally within woodland for forage.	Trees, Woodland and Scrub • P1 • P2 Rivers and Wetlands • P9 • P10 • P11	Healthy riparian zone of at least 10 m with a mixture of herbaceous plants, shrubs and trees.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Licenses are needed to release Beavers, and they are protected by law from harm.		
Greater Horseshoe Bat *Rhinolophus ferrumequinum*	The most studied bat in the UK. They need a structured landscape with habitat mosaic including woodland, pasture, hedges and treelines. Cattle grazed parkland important for chafers. Nationally increasing population but Cornish populations decreasing, driven by cold springs and winters, habitat/roosts loss, pesticides in agriculture and forestry and as a wood preservative in buildings. Key maternity roosts are near Truro and Boscastle, key hibernation roosts are North coast mines.	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P5 • P6 • P7 • P8 Rivers and Wetlands • P9 • P10 • P11 Nature-rich Grassland • P15 Historic Mining Sites, Buildings and Quarries • P23	Protection of roosts when presence is known, ideally heated at 27°C. Promoting grazed habitat near woodlands.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Grey Seal *Halichoerus grypus*	Grey seals have three main seasons annually: Pupping/breeding, moulting and foraging. The UK has over 1/3 (down from 50%, 20+ years ago) of the entire world population of this globally rare marine mammal. Seals are impacted by climate change changing prey patterns, extreme weather events, bycatch and entanglement in operational and lost fishing gear	Intertidal • P21	Reducing seal disturbance by maintaining 100 m buffer 'no-go' zones around sensitive seal sites, including drones, especially in pupping season. Site locations are highly sensitive to disturbance and excessive footfall. Reducing marine litter and proper end of life disposal of fishing gear, and installing gear and husbandry modifications to reduce bycatch. Reducing use of ring-frisbees near the sea as they can strangle seals. Restore and extend blue carbon habitats right around coastline. Ensure all sinks and toilets have chemical and microplastic filters to ensure only clean water enters the sea.
Harvest Mouse *Micromys minutus*	Harvest Mice are still widely distributed across Cornwall despite declining populations, and can be found in tall and dense grassland habitat.	Farmland, Hedges and Edges • P7 • P8 Rivers and Wetlands	Creation of beetle banks within agricultural landscape.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Changes in arable cropping regimes, increased grazing pressures, removal of hedgerows and draining of wetlands, together with the use of pesticides and herbicides and increasing weather variation, have all contributed to loss of habitat and reduced food availability.	• P9 Heath and Moor Mosaics • P14 Nature-rich Grassland • P15	
Hazel Dormouse ***Muscardinus avellanarius***	Hazel Dormouse can be found in woody habitat, with high species diversity of well-developed shrub layer and overgrown hedgerows and scrub. Priority species under the UK Biodiversity Framework, with a 70% population fall 2000-2022. There is debate for whether habitat loss or climate change has the bigger impact on hazel dormouse populations.	Trees, Woodland and Scrub • P1 Farmland, Hedges and Edges • P7 • P8	Maintenance of thick woodland shrubby understorey, particularly with heavily flowering/fruiting trees/shrubs. Building of dormouse nest boxes, and potentially dormouse bridges across roads
Hedgehog ***Erinaceus europaeus***	Hedgehogs are most abundant where grassland is adjacent to scrub, hedgerow or woodland, where habitat provides shelter and larger invertebrates to feed on. The national decline in numbers since the 1990s is estimated at 50%, though local range is stable implying habitat	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P5 • P6 • P7 • P8	Working with local rescue centres to survey for areas without hedgehogs and carry out managed releases. Reducing / eliminating use of slug pellets in gardens, and using hedgehog holes/tunnels in fencing.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	regeneration the main way to recover numbers. Significant mortality from gamekeepers, roads, slug pellets and badgers.	Nature-rich Grassland • P15 Town and Village Green and Blue Spaces • P22	Careful use of mowers, and ensuring winter piles of wood are clear of hibernating hedgehogs before being burned.
Otter *Lutra lutra*	Otters are present in a range of freshwater systems – where on the coast they alternate between marine and freshwater habitat, and eels are a major source of prey. Populations have been increasing since 1970's due to hunting and pesticide restrictions, but road mortality is major cause of death as otters seek to move upstream adjacent to rivers.	Rivers and Wetlands • P9 • P10 • P11	Building infrastructure to minimise otter exposure to roads, including culverts with mammal ledges and otter fencing. Making artificial holts and otter havens (i.e., undisturbed areas near watercourses). In marine environments, creation of freshwater pools to allow otters to clean saltwater off. Adding guards on eel nets.
Pine Marten *Martes martes*	Unknown population in Cornwall, but nationally increasing. Primarily living in woody habitat, Pine Martens breed in tree hollows, buildings, burrows and rock piles and use fallen trees extensively to hunt but are also omnivores.	Trees, Woodland and Scrub • P1	Creation of den boxes for breeding sites where there are few natural tree cavities. Creation of wildlife bridges for safe passage across roads.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Natural England published a Pine Marten recovery plan in 2021 highlighting the potential for the South-west.		
Water Vole ***Arvicola amphibius***	Water Voles can occupy a wide range of habitats with water, dry areas for nesting and herbaceous vegetation. Populations have been declining since 1900, where they are heavily impacted by the presence of American Mink and, to a lesser extent, cat predation.	Rivers and Wetlands • P9 • P10 • P11	Control of American Mink as Invasive Non-Native Species (INNS).
Lichens and Bryophytes			
A lichen ***Parmotrema robustum – Lizard only***	Primarily found in Lizard peninsula, on Prunus Spinosa and mossy rocks on coastal heathland, and rocky oceanic sessile oak woodland. Declines are driven by invasive species, scrub encroachment and unmanaged regeneration, excessive holly/ivy growth as a result of lack of grazing.	Coastal Wildbelt • P18 Intertidal • P21	Remove shrub/climbers that may be overshading
Cornish Path Moss ***Ditrichum cornubicum***	Cornish Path Moss is a pioneer species that grows on compacted, moist but well-drained peaty or loamy soil, mostly	Historic Mines, Quarries and Buildings • P23	Turf-stripping to re-expose metalliferous ground (at Phoenix United Mine and Caradon Mine sites).

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	in areas where the vegetation cover is either relatively open or sparse. It thrives on freshly exposes ground in these former mine sites, often on old paths, tracks, banks and occasionally wall tops. Known only from South Caradon Mine and nearby Phoenix United Mine. Only other global population is a single site in Ireland. There have been losses over the years due to weathering and succession, but recent work has halted this decline.		
Heath Pouchwort ***Gongylanthus ericetorum – Lizard only***	Heath Pouchwort grows on thin soil layers over serpentine rock on the Lizard, favouring coastal slopes and cliff tops, in thinly vegetated areas, where competition from vascular plants is low. In Britain the plant is only found in Cornwall and the Isles of Scilly, only seen at four sites on the Lizard since the 1990's. It's impacted by scrub encroachment and possibly trampling by walkers at some sites.	Coastal Wildbelt • P18	Actioning scrub management.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Western Rustwort ***Marsupella profunda – Mostly St Austell China Clay area***	Pioneer species always associated with China clay quarrying activities (active and disused). It grows on freshly exposed damp clayey substrate and also on soft weathered granite rock and stone. Western Rustwort is able rapidly colonise fresh substrate. Nationally rare and scarce bryophytes for Britain, only known in West Cornwall - Lower Bostraze. It's slowly declining due to reduction of habitat (China clay activities) and succession.	Historic Mines, Quarries and Buildings • P23	Habitat creation by machine or other micro-management of hand removing scrub/applying herbicide.
Fungi			
Date Waxcap ***Hygrocybe spadicea***	Found on primarily unimproved grassland with a variety of soil types, vulnerable to under-grazing and changes to land management like fertiliser and ploughing, as well as atmospheric nitrogen. Rare in number but widely distributed. Current population status unconfirmed but listed as Near Threatened (2006).	Nature-rich Grasslands • P15	Actioning traditional land management practices.
Flowering Plants			

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Bastard Balm *Melittis melissophyllum*	A member of the pea family, its flowers are highly aromatic and attract many pollinators. It grows in shady environments, usually in woodlands, on woodland edges and on hedge banks such as Cornish hedges. Cornwall and Devon are important locations for this species, where populations are thought to be stable. It has experienced declines in the rest of the UK due to oversharing and pony grazing.	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P7 • P8 Coastal Wildbelt • P18	Scrub clearance and coppicing within woodlands to avoid overshading.
Coral-necklace *Illecebrum verticillatum*	Coral-necklace requires open areas that are seasonally wet or permanently damp. It's associated with mining sites, and subsequent succession of other plants after closing of the mines has meant overshading of coral-necklace. Increasing nationally but decreasing in Cornwall where's it is originally native to – still found on Bodmin moor around Delford Bridge, and Carnmenellis granite area, West Penwith. It's likely present on other protected sites.	Farmland, Hedges and Edges • P7 Rivers and Wetlands • P9 • P10 • P11 Heath and Moor Mosaics • P12 • P14 Nature-rich Grassland • P16	Scraping former mine-working areas to produce new substrate. Sites could benefit from cattle-poaching.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
		Historic Mining Sites, Buildings and Quarries • P23	
Cornish Eyebright *Euphrasia vigursii*	Cornish Eyebright typically grows in dwarf dry heathland, often on the edge of open patches between the heathers. It has disappeared from most of its inland sites, everything north of Bodmin Moor. Habitat loss caused by the destruction of heathland and moorland sites has caused the extinction of a number of populations. It is endemic to Cornwall and a couple of sites in Devon. A number of sites along the spine of Cornwall (Kit Hill and the heath at Redrice Wood, and north of Bodmin e.g., Laneast Downs) which could be part of a species recovery programme.	Heath and Moor Mosaics • P12 Coastal Wildbelt • P18	Explore the potential for a reintroduction at key sites: Kit Hill and the heath at Redrice Wood, and north of Bodmin e.g., Laneast Downs.
Cornish Moneywort *Sibthorpia europaea*	Characteristically a species that colonises open or bare ground on stream banks or sides of ditches, it is also found in wet woodland and rush-pasture (especially where cattle-	Trees, Woodland and Scrub • P1 • P2 Farmland, Hedges and Edges • P7	Manage encroachment of scrub in key habitats. Promote wet areas and manage to avoid drying out.

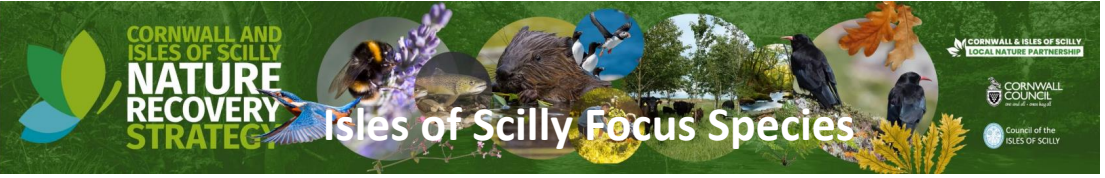
Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	poached), and has also been found in damp lawns. The species has a habit of disappearing from a site only to reappear close by after a few years so local 'extinctions' may just be part of the dynamic nature of how this species colonises new sites. It is roughly stable in Cornwall, but is impacted by sites drying out or becoming overgrown.	Heath and Moor Mosaics • P14 Nature-rich Grassland • P16	Create and maintain areas of open or bare ground on stream banks and ditches to allow colonisation.
Dwarf Rush ***Juncus capitatus – Mostly Lizard***	Found on costal rock, Dwarf Rush is only found in Cornwall, the Channel Islands and Anglesey, mostly in shallow and winter-wet hollows. The population on the Lizard is the largest, and is stable. Increased sheep grazing at Nare Head from the 2001 Foot and Mouth crisis lead to very short turf and an unexpected find of 150 Dwarf Rush plants on a small open area on the cliffs.	Coastal Wildbelt • P18 Intertidal • P21	Chyenhal Moor is a prime site for restoration and recovery.
Marsh Clubmoss ***Lycopodiella inundata***	Marsh Clubmoss is associated with old mine or spoil sites. It's found in seasonally inundated, bare, peaty, or	Heath and Moor Mosaics • P12 • P14	Sites of old mica dams in the St Austell China clay area would be worth trialling translocation of plants.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	sandy margins of wet heath/mires and pools, flushes and trackways. It was discovered at two new sites in 2012, at Park Pit near Colliford Reservoir and Stannon Pit near St Breward, both former China clay works on Bodmin. The population at Park Pit on an old dried out mica dam is considered to be one of the largest populations in England.	Nature-rich Grassland • P16 Historic Mining Sites, Buildings and Quarries • P23	Ensure bare peaty ground cover over approximately 10-year cycles.
Pennyroyal ***Mentha pulegium***	Found primarily in lowland meadows - short turf grassland in winter-wet places, in poached and grazed pond margins, seasonal pools, along unsurfaced tracks and in ruts in old pastures. Also found in former gravel-pits. Pennyroyal generally spreads by runners rooting at nodes, but sets seed and can form long-term seed banks. Pennyroyal is critically endangered. Horse grazing is beneficial, as is a period of drought in late summer.	Farmland, Hedges and Edges • P7 Rivers and Wetlands • P9 • P11 Nature-rich Grassland • P16	Grazing by heavier cattle and horse breeds.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Plymouth Pear ***Pyrus cordata***	A very rare tree known only in Cornwall and Plymouth. It occurs in a couple of roadside thickets and on very old Cornish Hedges that enclose permanent pasture fields.	Farmland, Hedges and Edges • P6 • P7 • P8 Nature-rich Grassland • P15 Town and Village Green and Blue Spaces • P22	Dedicated planting around Plymouth and Truro to support prevalence of Plymouth Pear, and historic roadside between St Johns and Tregantle could be replanted.
Triangular Club-rush ***Schoenoplectus triqueter – Tamar only***	Triangular Club-rush grows in a very specific habitat, on soft mud in the mid-section of the River Tamar - between Calstock and south of Gunnislake on both sides of the river. Wild populations are presumed extinct with ongoing re-introduction schemes. It's unknown exactly what caused declines, but eutrophication from agriculture and sewage treatment potentially meant that Common Reed out-competed Triangular Club-rush.	Rivers and Wetlands • P10 • P11 Intertidal • P21	Continue re-introduction schemes at suitable locations along the River Tamar. Management of Common Reed where it could be out-competing Triangular Club-rush. Support farmers and landowners within the Tamar Catchment to reduce run-off of chemicals into water bodies.
Wild Asparagus	Highly localised on sea cliffs, often in very inaccessible places with friable	Coastal Wildbelt • P18	Removal of Sour Fig (*Carpobrotus edulis*) and other members of the Fig-marigold

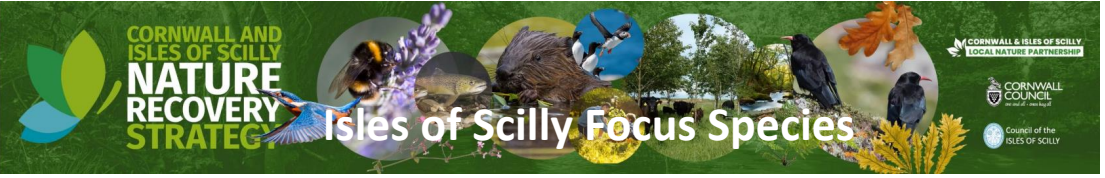
Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Asparagus prostratus – Mostly Lizard	substrates or on scree slopes. It grows amongst the broken rocky rubble from former mining operations at several coastal sites. Of the 28 extant populations, nine have fewer than ten plants and only three sites have more than 100 plants. Cornwall is its stronghold with the main concentration on the Lizard as well as at five other coastal sites, stable local population.		family (Aizoaceae and Carpobrotus) which are a threat on the cliffs of the Lizard. Planting of seedlings at suitable sites.
Yellow Centaury ***Cicendia filiformis***	Requires open areas in wetland or heathland sites with sandy or peaty soils. These are often created by mining disturbance, cattle-poaching of the ground, or regular animal tracks creating small open areas. Populations can boom following disturbance events, then gradually decline and persist at very low levels. Yellow centaury is maintained in managed sites in Cornwall on the Lizard but has declined elsewhere. This is due to drainage of wetlands, reduction of grazing and reduction in mining.	Heath and Moor Mosaics • P12 • P14 Nature-rich Grassland • P16 Historic Mining Sites, Buildings and Quarries • P23	Creating scrapes in damp areas to reveal bare ground. The species can colonise new sites if the conditions are right, with an ideal focus toward historic sites.

Species	Species overview	Which priorities have actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Inappropriate infill of tracks with stones on Goss Moor appear to have covered open areas which once supported populations.		



Isles of Scilly

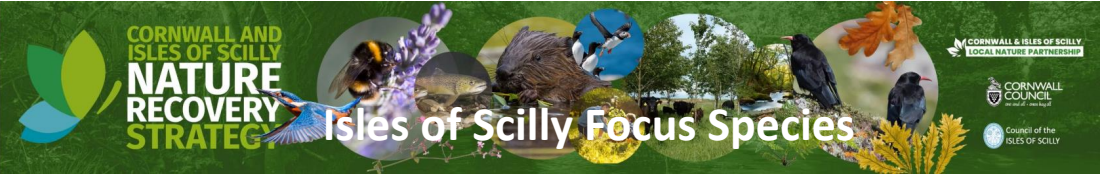
Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Birds			
Common Tern *Sterna hirundo*	Found in coastal and inland freshwater sites (in shingle or gravel shore) during the summer breeding months. Common Terns are noisy in their colonies and, like most terns, will attack intruders threatening their nests. Declines are likely related to heavily exploited fish populations, and they are at risk of HPAI Avian Flu.	Rivers and Wetlands • P9 Coastal Wildbelt • P20 Intertidal • P21	Protect important populations of Sandeels, clupeids (sprat and herring) and gadoids (cod family species - whiting) from over exploitation. Ensure the protection of important habitat/sites for nesting, including reducing predation from invasive mammals and feral cats. Create purpose-built nest shelters in coastal locations or offshore, creating gravel pit habitat, tern rafts in reservoirs, islets in industrial lagoons. Habitat improvement though control of vegetation.
Cuckoo *Cuculus canorus*	Cuckoos are summer visitors to the UK and forage on a range of insects but particularly hairy caterpillars. They are found primarily in open habitats including farmland, heathland moors and mires, and wetlands.	Trees, Woodland and Scrub • P4 Heath and Moor Mosaics • P13	Manage habitats to benefit invertebrates by providing beetle banks, set-aside, planting buffer strips around arable fields and restoring or creating semi-natural grassland.



Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

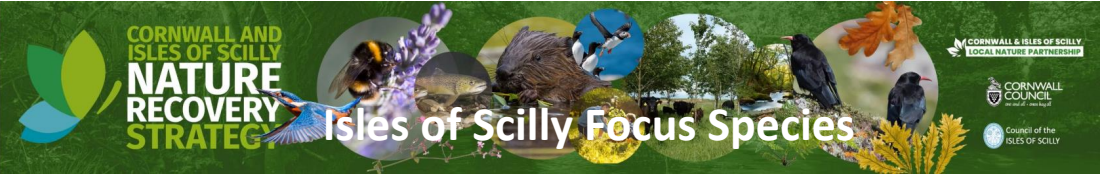
Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Fulmar *Fulmarus glacialis*	Found on the coasts and out to sea, Fulmar are breed on the cliffs but have been found nesting in sand dunes and flat ground on islands. Numbers have been declining over the past 10 years, which is likely linked to declining populations of prey e.g., zooplankton and Sandeel (related to overfishing and rising sea temperature/climate change).	Coastal Wildbelt • P20 Intertidal • P21	Protect populations of Sandeels and zooplankton. Ensure the protection of important habitat/sites for both nesting and foraging. Install measures to reduce bycatch of Fulmar (particularly longline and coastal gillnet). Reduce pollution and contaminants of open shorelines and coastal habitats. If involved in wind farm and wave/tidal developments, use SeaMaST tool to help predict seabirds use of areas.
Great Black-Backed Gull *Larus marinus*	The largest of the gull species, populations of the Great black-backed gull are fairly stable. They are omnivorous and have not had the substantial declines seen in other UK seabirds potentially to out-competing other birds when scavenging. They are found all over the UK mainly in marine and coastal habitat. They can also be found roosting in	Coastal Wildbelt • P20 Intertidal • P21	Reduce pollution and contaminants of open shorelines and coastal habitats. If involved in wind farm and wave/tidal developments, use SeaMaST tool to help predict seabirds use of areas.

Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	freshwater lakes and in coastal urban areas. Gathering at shared food sites (like landfill, ploughed or livestock fields) makes them potentially at risk of HPAI Avian Influenza, and climate change is a key threat.		
Guillemot ***Uria aalge***	A native resident species, guillemots are found on sea cliffs and inshore waters. They are vulnerable to severe weather conditions. Declines are associated with reduced numbers of key prey species like sprat and Sandeel, though English populations show more resilience than Scottish populations - potentially from less predation by large gull species and from reduced reliance on Sandeel populations. Guillemot Populations are at high risk of HPAI Avian Influenza.	Coastal Wildbelt • P20 Intertidal • P21	Protect important populations of Sandeels, clupeids (sprat and herring) from over exploitation. If involved in wind farm and wave/tidal developments, use SeaMaST tool to help predict seabirds use of areas. Ensure the protection of important habitat/sites for nesting. Reduce pollution and contaminants of open shorelines and coastal habitats.
Herring Gull ***Larus argentatus***	Listed as Red in the UK Birds of Conservation Status, the Herring Gull are found across a wide range of habitats including all coastal and intertidal areas, as well as farmland,	Coastal Wildbelt • P20 Intertidal • P21	Ensure the protection of important habitat/sites for nesting.

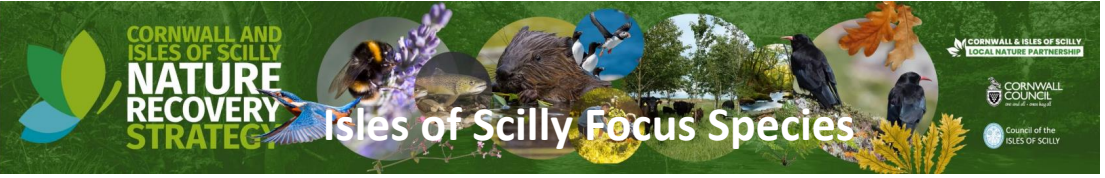


Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	wetland and coastal habitats, inland landfill sites, playing fields, and reservoirs in the winter. They nest on clifftops, rooftops and islands. Botulism is thought to be a key factor in their declines, potentially from bacteria found in landfill sites, as well as scavenging declines from landfill and fishery discards. There is still uncertainty on main causes of Herring Gull decline though they are considered at high risk of climate change.		Protect important populations of Sandeels, clupeids (sprat and herring) from over exploitation. If involved in wind farm and wave/tidal developments, use SeaMaST tool to help predict seabirds use of areas.
Kittiwake ***Rissa tridactyla***	Kittiwakes nest on maritime cliffs and building close to the coast. They're listed as a critically endangered species, with pressures from climate change and changing sea temperature as well as declining stocks of prey like Sandeel.	Coastal Wildbelt • P20 Intertidal • P21	Create purpose-built structures in coastal locations or offshore which birds can nest – 'kittiwake hotels'. Protect important populations of Sandeels, clupeids (sprat and herring) from over exploitation. Ensure the protection of important habitat/sites for both nesting and foraging.
Lesser Black-Backed Gull	The Lesser Black-Backed Gull predominantly breeds in coastal areas,	Coastal Wildbelt • P20	

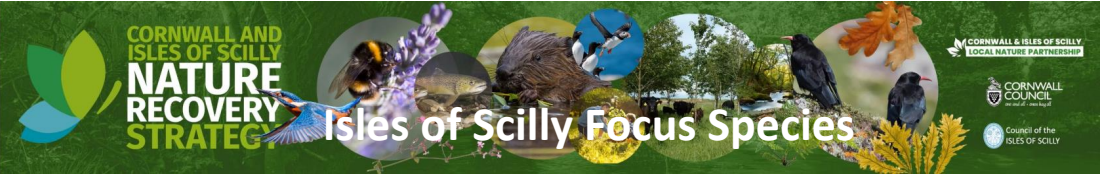


Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Larus fuscus	though increasingly breeds in rooftops further inland and are omnivorous. Despite population increases over the 20th century, recent years have seen declines. This decline is most evident across two of the three main sub-populations on St Helen's and Samson which have all but disappeared. Main drivers for declines are uncertain but are associated with reduced feeding opportunities of prey species, and changing refuse management and reduced fishing discards, increasing pollution such as PCBs, and competition with and predation by the Herring Gull. Gathering at shared food sites (like landfill, ploughed or livestock fields) makes them potentially at risk of HPAI Avian Influenza, and climate change is a key threat.	Intertidal • P21	Ensure the protection of important habitat/sites for nesting. Reduce pollution and contaminants of open shorelines and coastal habitats. If involved in wind farm and wave/tidal developments, use SeaMaST tool to help predict seabirds use of areas.
Manx Shearwater *Puffinus puffnus*	Manx Shearwater are the longest-lived birds in Britain. They spend most of their lives at sea, migrating up to	Coastal Wildbelt • P20	Continue biosecurity measures for Brown Rats to avoid re-introduction to St Agnes.



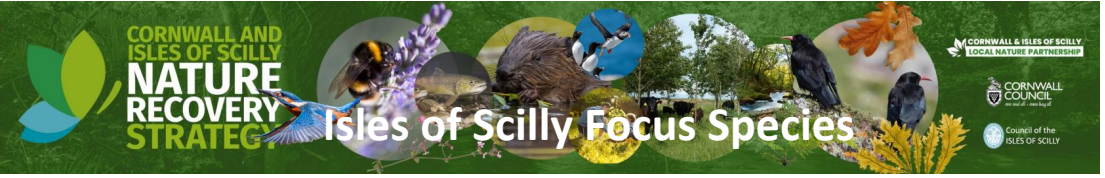
Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	10,000 km each year across the South Atlantic to South America. They only return to the land at night during nesting, where they raise chicks in burrows. The Isles of Scilly is a conservation success site for this species thanks to their island bird restoration project to remove Brown Rats, one of their key predators.	Intertidal • P21	Expand the island restoration programme to St Martin's, Bryher and Tresco and uninhabited islands to support further breeding success.
Puffin *Fractercula arctica*	Puffins can be found on coastal islands off the shore during breeding season. They are at risk of global extinction, and half of the UK population live on a few sites, making them highly threatened and classified as a Red List species. At a UK scale, Puffins are being threatened by overfishing which interrupts their food source, and by predators taking their eggs.	Coastal Wildbelt • P20 Intertidal • P21	Protect important populations of Sandeels, clupeids (sprat and herring) from over exploitation. Ensure the protection of important habitat/sites for both nesting and foraging.



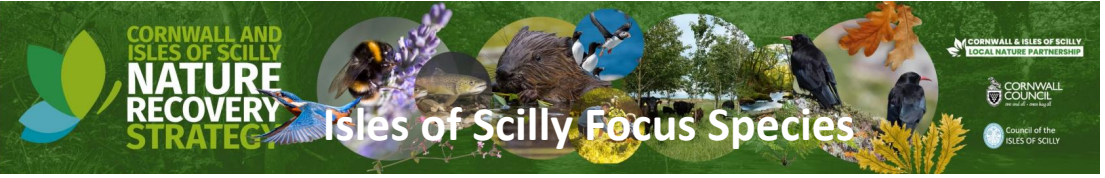
Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Razorbill *Alca torda*	Razorbills only come to shore to breed during the summer, and stand distinctively upright with clear black and white breeding plumage. They nest with other seabirds like guillemots, preferring the lower ledges and rocky bottoms of cliffs and deep ravines. The population trend is increasing, though they have high exposure to changing sea temperatures that affect prey populations like Sandeel. They can be seen diving for fish, and are at risk of being victims of bycatch as a result.	Coastal Wildbelt • P20 Intertidal • P21	Reduce pollution and contaminants of open shorelines and coastal habitats. Protect important populations of Sandeels, clupeids (sprat and herring) and krill from over exploitation. Ensure the protection of important habitat/sites for nesting. Installing gear and husbandry modifications to reduce bycatch. If involved in wind farm and wave/tidal developments, use SeaMaST tool to help predict seabirds use of areas.
Ringed Plover *Charadrius hiaticula*	The Isles of Scilly is an important breeding site for Ringed Plover, which do not breed anywhere else in the Southwest. They nest on open shingle areas, their eggs being perfectly camouflaged amongst the stones.	Rivers and Wetlands • P9 Coastal Wildbelt • P19 Intertidal • P21	Protect nesting habitat from disturbance and predators during the breeding season through fencing. Manage shingle habitat and remove vegetation where appropriate to maintain nesting habitat. Maintaining sparse sward by grazing or mowing, bordering wetlands.



Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

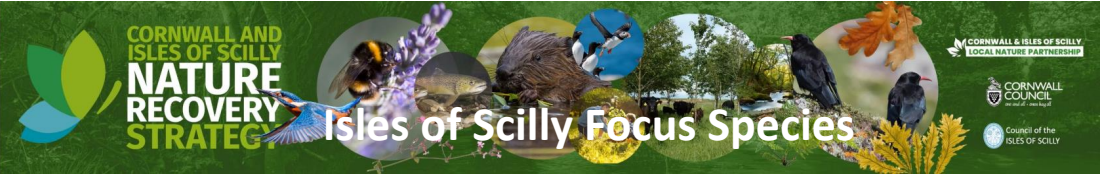
Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Disturbance at coastal sites, due to increasing visitor numbers, is a significant factor in reducing breeding success.		Reduce pollution and contaminants of open shorelines and coastal habitats.
Shag ***Phalacrocorax aristotelis***	In the same family as Cormorants, Shags breed exclusively in loose colonies along our rocky coastline and on nearby rocky islands. Being highly sedentary, they do not move very far during the winter. Shags are one of the commonest seabirds on the Isles of Scilly, and the Isles of Scilly may be on the biggest in the UK.	Coastal Wildbelt • P20 Intertidal • P21	Protection of feeding areas and Sandeels. Protection of nesting areas from disturbance.
Storm Petrel ***Hydrobates pelagicus***	Storm Petrels nest on rocky islands around the Western Coasts of the UK. Conservation efforts are best applied to maintaining healthy seas for these birds.	Coastal Wildbelt • P20 Intertidal • P21	Ensure the protection of important habitat/sites for nesting.
Swift ***Apus apus***	Although widespread across much of Britain, there has been a significant decline in the population. Reasons are likely to include poor summer weather, a decline in insects and loss of suitable nesting sites.	Farmland, Hedges and Edges • P5 • P6 Rivers and Wetlands	Mixed farming systems and provision of habitat mosaics across the farmland landscape including permanent pasture, livestock farming and hay meadows.



Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	The species is widespread and the population trend is likely to reflect that of the rest of the country.	• P9 Nature-rich Grasslands • P15 Coastal Wildbelt • P18 Town and Village Green and Blue Spaces • P22	Likely to benefit from landscape scale wetland habitat regeneration, expansion and restoration, as very large numbers of Swifts aggregate to feed over such habitat in spring and autumn in particular. Incorporate swift nest bricks into all new build properties. Encourage people and businesses to put up swift nest boxes on residential and commercial buildings. Raise awareness among the community and businesses of the need to help provide nest sites for swifts.
Migratory Fish			
European Eel ***Anguilla anguilla***	Eels will migrate up vertical cliff faces, over land, through subterranean fissures, ditches, sewers, drains etc and are found in most watercourses. Pigmented elvers migrate into freshwater around April and May. They then disperse further upstream as they grow. Juvenile or 'yellow' eels spend	Rivers and Wetlands • P9 Intertidal • P21	Installing eel and elver passes at migratory barriers within watercourses, which cannot be removed. Create areas of cover within freshwater habitats e.g., boulders, woody debris, overhanging banks and tree roots.

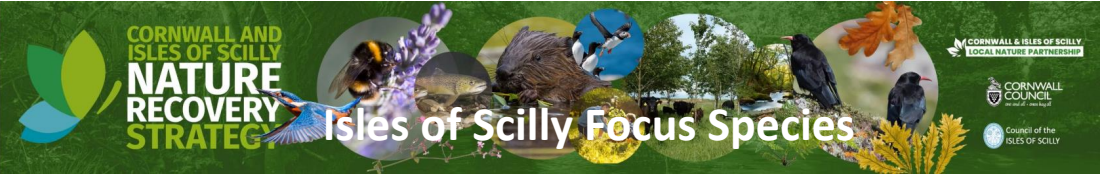
Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	several years in freshwater in streams and lakes until they reach maturity and migrate to marine spawning grounds.		Incorporate eels into management plans for turbines and abstraction intakes, using measures such as screening or behavioural deterrents.
Terrestrial Invertebrates			
Black Oil Beetle ***Meloe proscarabaeus***	Most commonly found on wildflower-rich coastal cliff tops and lowland, unimproved grasslands. Adults prefer Lesser Celandine (*Ficaria verna*) and soft grasses (Poaceae) as food plants, with Dandelions and Buttercups also being important. Larvae (known as triungulins) feed within solitary bee nests on pollen and the bee egg and/or larvae.	Nature-rich Grasslands • P15 • P17 Coastal Wildbelt • P18	Allow some disturbance to maintain areas of bare ground. This can be achieved without management through public access, wild grazing or physical processes of cliff erosion. Avoid practices such as surfacing paths which reduces the amount of bare ground for burrows.
Buffish Mining Bee ***Andrena nigroaenea subsp. sarnia***	This subspecies of Buffish Mining Bee occurs only on the Isles of Scilly and Channel Islands. The species forages widely in coastal grassland and heathland, as well as in flower-rich locations inland including	Farmland, Hedges and Edges • P6 Heath and Moor Mosaics • P13	Creation of open flower-rich coastal habitat, including 'bee-friendly' plants in private and public gardens. Maintenance, enhancement and restoration of coastal heath and grassland will benefit

Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	roadsides and gardens. It nests especially in soft cliffs and other bare sloping or vertical ground on the coast, but also in bare or sparsely vegetated vertical ground inland. Historic declines were likely caused by reduction of informal grazing since the 1950s.	Nature-rich Grasslands • P15 Coastal Wildbelt • P18 Town and Village Green and Blue Spaces • P22	this and other solitary bee species as well as bumblebees. Maintain/restart heavy grazing management, e.g., traditional grazing regimes on coastal heath and grasslands.
Moss Carder Bee ***Bombus muscorum subsp. scyllonius***	The Moss Carder Bee is particularly associated with coastal flower-rich grassland and heathland, formerly on all the inhabited and several uninhabited islands although post-1980 having its main stronghold on St Agnes. Its favoured forage flowers on Scilly were legumes such as Bird's-foot Trefoil (*Lotus corniculatus*) and clover (*Trifolium* spp), but it regularly visited other plants like heathers (Ericaceae) and Thrift (*Armeria maritima*). Nesting has never been observed on Scilly, but elsewhere it nests above ground in tall grassland.	Farmland, Hedges and Edges • P5 • P6 Heath and Moor Mosaics • P13 Nature-rich Grasslands • P15 • P17 Coastal Wildbelt • P18	Re-establish informal grazing on open coastal areas. Establish suitable forage plants such as red clover in disused fields within the agricultural landscape and other open grassy areas away from the coastal strip. An introduction project could be undertaken using stock from one of the other 'smithianus type' subspecies. St Agnes would be the most promising site to target considering it's history as a major site, specifically Wingletang and Castella Downs and the grassland adjacent to the Pool.

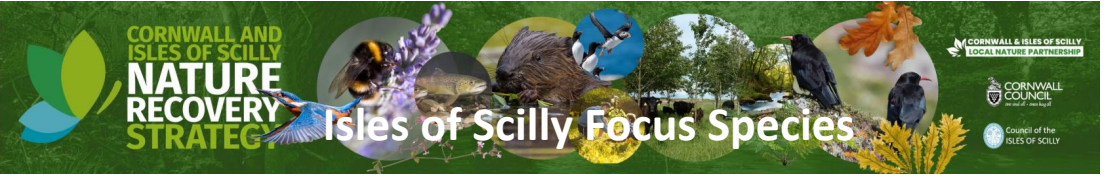


Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
			Other sites would be St Martin's (which would align with habitat improvements for *Formica rufibarbis*), and the adjacent Eastern Isles of Great Ganilly, Nornour, and the Arthurs, where it survived at least up to 2000.
Red Barbed-ant ***Formica rufibarbis***	The Red Barbed Ant workers forage mainly at ground level for small & medium sized invertebrates but also sometimes visit umbellifer flowers such as wild carrot. This species nests in coastal turf, often beneath or between exposed granite rocks. It requires a particularly warm, sheltered microclimate which is provided by the coastal heathland and grassland at the eastern end of St Martin's (Chapel Down and adjacent areas) and also occurs on a small scale on the nearby Eastern Isles of Great Ganilly and Nornour. It is absent from superficially similar heathland sites on the other inhabited islands.	Heath and Moor Mosaics • P13 Coastal Wildbelt • P18	Habitat restoration to expand available areas of coastal heath and grassland. Maintain historical cutting regime for coastal paths within the ant's range. Reintroduce coastal grazing. Conservation efforts should be focussed at the eastern end of St Martin's. However, the Eastern Isles (Great Ganilly and Nornour) also have opportunity, and there is potential for natural establishment on Tean, off the western end of St Martin's (where colonies have apparently been established on two occasions).



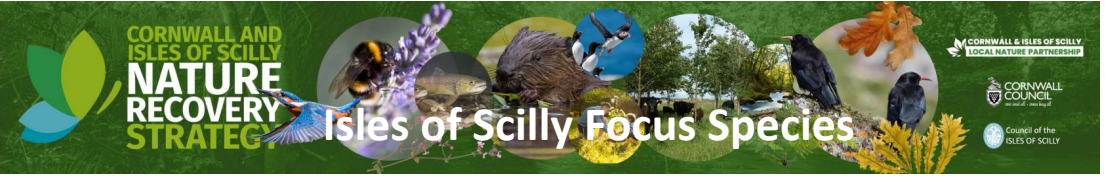
Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Speckled Wood *Parage aegeria subsp. Insula*	A subspecies only found on the Isles of Scilly, which has orange-brown rather than cream markings. Speckled Wood butterflies favour woody habitats, but can be widespread across woody edges and mosaics. They can be found on the wing between the end of March and October, feeding on honeydew. As caterpillars, they feed on a variety of grasses including False Broom and Cock's-foot.	Trees, Woodland and Scrub • P4 Farmland, Hedges and Edges • P5 • P6 • P7 Town and Village Green and Blue Spaces • P22	Create open areas within woody habitats.
Swiss Sac-spider *Porrhoclubiona genevensis*	With local populations stable but national populations declining, the Swiss Sac-spider can be found in areas of coastal and clifftop grassland and heath. Historic causes of decline include visitor pressure and the loss of open grassland to agriculture and vegetation encroachment. Isles of Scilly and Cornwall sites make up four of the eight current UK sites.	Heath and Moor Mosaics • P13 Coastal Wildbelt • P18	Maintenance, enhancement and restoration of coastal heath and maritime grassland, keeping sward low with heavy grazing management, e.g., traditional grazing regimes. Ensure protection from disturbance of important habitat/sites.



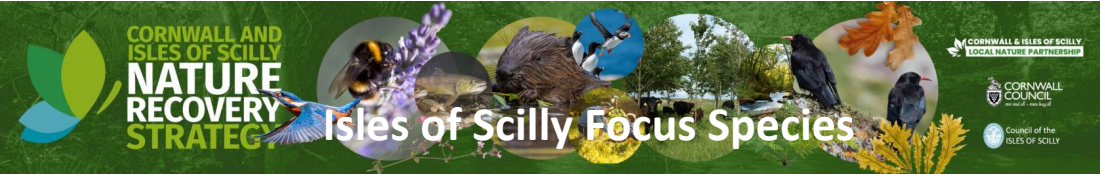
Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	In the Isles of Scilly sites are at particular risk of rising sea-level.		
Flowering Plants			
Chamomile ***Chamaemelum nobile***	Chamomile is a native plant, and is widespread but quite scattered nationally. It is found in seasonally wet, heavily grazed mesotrophic (not too acid or too wet or too dry) to acidic grassland, and often on cliff-tops and can occur in sports fields and quarries. Declines are caused by drainage and ploughing of semi-natural grasslands or wetland habitats, and lack of grazing causing increase of scrub and reduction of short turf.	Farmland, Hedges and Edges • P5 • P7 Heath and Moor Mosaics • P13 Nature-rich Grasslands • P15 • P17 Coastal Wildbelt • P18 • P19 Town and Village Green and Blue Spaces • P22	Maintain/restart heavy grazing management, e.g., traditional grazing regimes. Check for presence of chamomile before ploughing topsoil. The Isles of Scilly Airfield is a potential site for seed collection
Dwarf Pansy	Only found in the Southwest, Dwarf Pansy can be found in disturbed areas	Nature-rich Grasslands • P15	Manage sand dunes to control competitive species by cutting or grazing.

Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

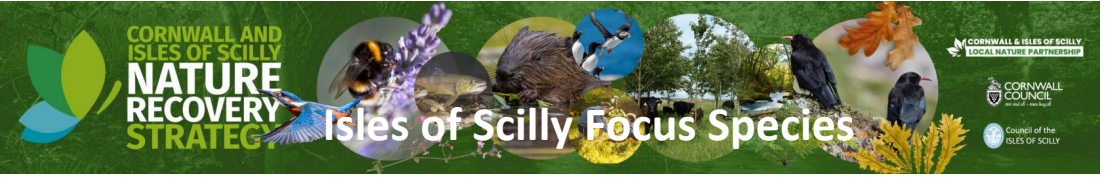
Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
Viola kitaibeliana	of sandy coastal grassland and low dune grassland. Declines in the species have been caused by habitat loss, from development, coastal erosion and lack of grazing/disturbance of grassland. Key sites are: Rushy Bay Bryher, Tean (three former sites) Carn Near Tresco.	• P17 Coastal Wildbelt • P18 • P19	Create patches of open sand where plants can seed.
Least Adders-tongue Fern ***Ophioglossum lusitanicum***	Least Adders-tongue Fern is a heathland species often at the heathland/grassland interface, growing in shallow turf over granite. Associated species include small species including English Stonecrop (*Sedum anglicum*), Buck's-horn Plantain (*Plantago coronopus*), Early Hair-grass (*Aira praecox*) and mosses. The current known Least adders-tongue fern site is Wingletang, St Agnes.	Heath and Moor Mosaics • P13 Coastal Wildbelt • P18	Targeted restoration of heathland and scrub management using grazing at Wingletang site.
Orange Birds-foot ***Ornithopus pinnatus***	Orange Birds-foot can be found on heathland alongside species like Hairy Bird's-foot Trefoil (*Lotus subbifloruus*),	Heath and Moor Mosaics • P13	Wingletang Down is a key site for habitat restoration



Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	Bell Heather (*Erica cinerea*), Ling (*Calluna vulgaris*), and Little White Bird's-foot (*Ornithopus perpusillus*). They can also be found in sandy bulb fields with Small Flowered Catchfly (*Silene gallica*) and Scarlet Pimpernel (*Lysimachia arvensis*), as well as sand quarry/dune grassland, and in Tresco Abbey Gardens. Populations are difficult to monitor as they fluctuate year to year.	Coastal Wildbelt • P18 • P19	
Shore Dock ***Rumex rupestris***	Nationally, Shore Dock is only present in the Southwest. Its rarity is due to the specific habitat where it grows: in freshwater seepages on sheltered cliffs, at the head of beaches, on wave-cut platforms. Declines have been caused by coastal erosion, increased storminess removing populations from cliffs. More frequent droughts drying up the freshwater seepages have also	Coastal Wildbelt • P18 • P19	Protection of known sites to prevent trampling (last seen on Tean in 2019). Managed retreat of coastline to allow coastal soft sediment to roll inland.



Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	affected some populations leading to smaller plants with fewer seeds. Due to the precarious nature of sites it is often not possible to protect some sites from storminess from the sea.		
Small-flowered Catchfly ***Silene gallica***	It can be found in arable field margins, coastal soft-rock cliffs and shingle. In Isles of Scilly this can be found in urban environments on stone walls. It is also found in bulb field communities and other cultivated or disturbed sites. The variety *S. gallica var quinquevulnera* has been lost as a wild plant although occasional escapes from gardens where it is maintained occur. It is a rare and endangered species. An important component of the OV2 *Briza minor - Silene gallica* NVC community which is specific to the Isles of Scilly. Declines have been driven by changes in arable planting/sowing regime.	Farmland, Hedges and Edges • P5 • P6 • P7	Avoid conversion of low-input arable land to perennial vegetation e.g., grass strips or planted trees. Manage sites on uninhabited islands to reduce scrub encroachment.



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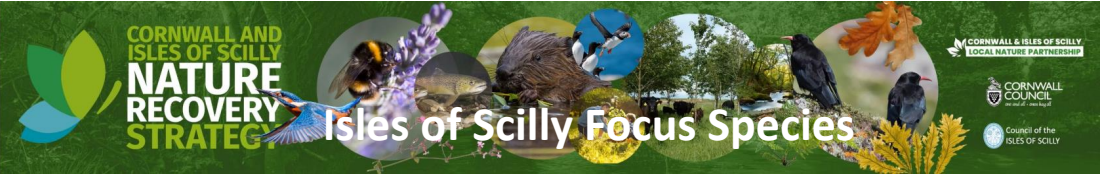
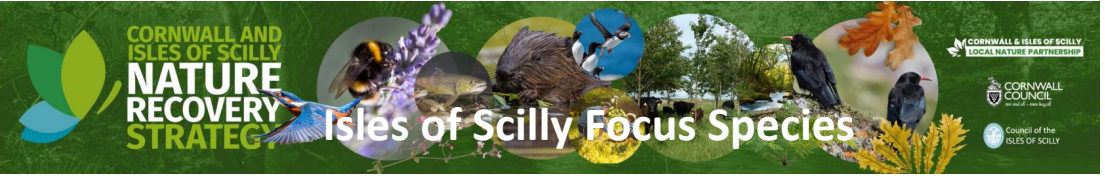
Western Elm ***Ulmus minor/cornubiensis and U. occidentalis***	The Isles of Scilly are currently free from Dutch Elm Disease and so are an important haven for Elm trees. On Scilly Elms mostly occur in hedgerows, or in plantation woodlands with associated plants including Lords-and-ladies (Arum *italicum subsp neglectum*) and several fern species.	Trees, Woodland and Scrub • P4 Farmland, Hedges and Edges • P8 Town and Village Green and Blue Spaces • P22	Ensure biosecurity measures are in place and adhered to ensure that Dutch Elm Disease does not spread to the Isles of Scilly.
Lichens and Bryophytes			
Ciliate Strap-lichen ***Heterodermia leucomelos***	Ciliate Strap-Lichen is found in the mossy cracks of the rocks of seacliffs and grows with Crocodia aurata. It was found in 2002 on all 5 of the inhabited islands on the Isles of Scilly, however population is rare and declining. Historic declines caused by encroachment by scrub and increased footfall, and wild-fires.	Coastal Wildbelt • P18	Maintenance, enhancement and restoration of coastal heath and maritime grassland, keeping sward low with heavy grazing management, e.g., traditional grazing regimes. Ensure the protection from disturbance of important habitat/sites. Populations should be ideally monitored every 3-6 years – key sites: Popplestone Brow, Tresco Gimble Point Gun Hill. These sites need to be checked urgently and compared with the populations found by



Birds	Migratory Fish	Terrestrial Invertebrates
Flowering Plants	Lichens and Bryophytes	Mammals

Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
			Bryan Edwards in his report for Plantlife of 2002.
Gilt-edged Lichen ***Crocodia aurata***	A large and spectacular British lichen, the Gilt-edged Lichen was thought to be extinct until it was discovered on White Island in 2001, the first recorded sighting since 1967. The lichen is widespread in southern tropic regions.	Coastal Wildbelt • P18 Intertidal • P21	
Golden Hair-lichen ***Teloschistes flavicans***	Listed on the UK Biodiversity Action Plan, Golden Hair-lichen is highly centralised in the South-West and SW Wales. Cornwall and the Isles of Scilly have proven to be strongholds of populations against national declines, driven by sulphur dioxide air pollution. Most recent Isles of Scilly record was from St. Martin near the Daymark in March 2023. The lichen occupies well-lit and very exposed situations on or near the coast usually at a height above the sea where it is subjected to spray, on granite rocks and soils overlying them.	Coastal Wildbelt • P18	Maintenance, enhancement and restoration of maritime grassland, reducing scrub with heavy grazing management, e.g., traditional grazing regimes. Raise public awareness of this flagship species through posters, information boards and key messages on social media, at the airport and on the ferry. Monitor sites on the way to the Daymark on St. Martin's (SV9416) and a large site on Gugh at (SV888081).



Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	It's distinctive aesthetic and positioning makes it vulnerable to being collected. Other current threats include loss of habitat from scrub encroachment and the accelerated succession of plants caused by eutrophication and rising temperatures.		
Mammals			
Brown Long-eared Bat ***Plecotus auritus***	The Brown Long-eared Bat is a medium sized bat with huge ears. As with all UK bats, they are nocturnal, only coming out at night to feed on midges, moths and other flying insects. They have an incredible sense of direction thanks to echolocation, which they use to hunt prey. In 2011, this species was rediscovered breeding on the Isles of Scilly having not been seen for about 40 years.	Trees, Woodland and Scrub • P4 Farmland, Hedges and Edges • P5 • P6	Preservation of roosting sites in trees is vital for the continuation of this species in Scilly. Supporting moth populations and other flying invertebrates to provide forage species.
Grey Seal ***Halichoerus grypus***	Grey seals have three main seasons annually: Pupping/breeding, moulting and foraging.	Intertidal • P21	Reducing seal disturbance by maintaining 100m buffer 'no-go' zones around sensitive seal sites, including drones, especially in

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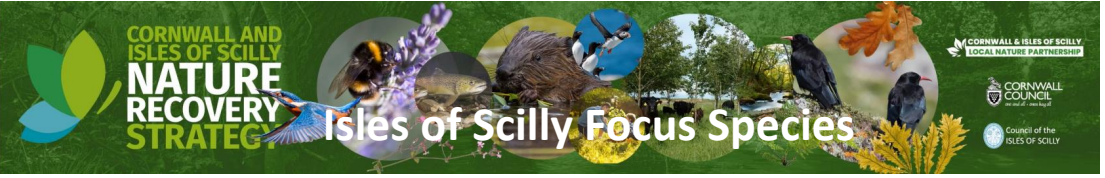
	The UK has over 1/3 (down from 50%, 20+ years ago) of the entire world population of this globally rare marine mammal. The Isles of Scilly Complex SAC has been designated for grey seals. Seals are impacted by climate change changing prey patterns, extreme weather events, water pollution and entanglement in both in-use and lost fishing gear.		pupping season. Site locations are highly sensitive to disturbance and excessive footfall. Reducing marine litter and proper end of life disposal of fishing gear, and installing gear and husbandry modifications to reduce bycatch. Reducing use of ring-frisbees near the sea as they can strangle seals. Restore and extend blue carbon habitats right around coastline. Ensure all sinks and toilets have chemical and microplastic filters to ensure only clean water enters the sea. Encouraging members of public and particularly fishers to take part in beach cleans to raise their awareness of the marine litter issues.
Scilly Shrew (Lesser White-toothed Shrew) ***Crocidura suaveolens***	The Lesser White-toothed Shrew, AKA the Scilly Shrew, is a tiny shrew with brownish fur, a grey underbelly, and	Coastal Wildbelt • P18	Supporting invertebrate colonies can support Scilly Shrew with forage.



Species	Species overview	Which priorities have general actions which most benefit this species?	What additional actions can be undertaken to benefit this species?
	large ears (comparative to other shrews). The Scilly Shrew was once considered its own subspecies, until skull and tooth measurements were matched with those in the Channel Islands. The behaviour of the Scilly Shrew is somewhat different to other Lesser White-toothed Shrews due to the unique habitat of the islands. They have adapted well to life by the sea and are commonly seen exploring rocky coastal paths and in the sheltered undergrowth near beaches.	Intertidal • P21	Targeted management of the coastal wild belt can help the Scilly Shrew with habitat provision and cover from predation.