

NORTHERN ENGLAND'S LOST SPECIES OPPORTUNITIES FOR REINTRODUCTION

LIFESCAPE REPORT 2020



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WHO WE ARE

The Lifescape Project aims to create transformed landscapes which are ecologically diverse and which inspire the communities which live in and value them, in order to secure a sustainable future for all life on earth.

The Lifescape Project is a not-for-profit partnership which was formed by a number of organisations with experience in large scale conservation-based projects and the ecological, social, economic and legal considerations behind them.

For examples of our current projects, please take a look at our website. We are always eager to hear new ideas that could help to support our goals, so please contact us through our website if you think we can be of assistance:

<https://lifescapeproject.org>

This report includes images of wild landscapes across Europe which still contain many of the species now lost from Northern England. These images have been included as beautiful and inspiring examples of landscapes containing more complete ecosystems and ecological processes than much of the UK

OBJECTIVES





OBJECTIVES AND PURPOSE

Through the information in this report, we hope to open up a debate on the reintroduction of species which are currently locally extinct in Northern England by highlighting a range of exciting reintroduction possibilities that exist in just this one part of the UK.

This report provides an evidence base for engagement, and we hope it inspires local wildlife and community groups to develop their own reintroduction programmes.

In line with IUCN Guidelines on reintroductions and translocations, this report includes a consideration of the benefits and costs that these species could provide for local communities, economies and businesses, and explores whether bringing back these extinct species to Northern England could be of overall benefit to those who live and work there.

In this light, the report does not propose to make any decisions for local communities. We recognise that whilst these species are exciting to those of us who are already passionate about their conservation and ecological benefits, not everyone shares this position.





OUR CORE OBJECTIVES

We want to make it clear that this report is not promoting any specific species for reintroduction in any particular area.

This is an important decision that local communities must make with accurate and impartial information to hand. Our aim is to provide information that will help to inform local debate and initiatives, and we hope to develop an approach that can be repeated elsewhere around the country. Following publication of the report, we plan to discuss the issues raised with local communities in Northern England through various events and workshops.

The core objective of this report is to provide an overview of the ecological, social and economic impacts of reintroducing some of the species which are currently missing from Northern England. The wider aims of this report are to:

- Promote awareness of the animal species that have become extinct in Northern England due principally to human influences;
- Build an understanding of the benefits and costs associated with reintroducing missing species within the local communities that might one day see those species return;
- Provide an evidence base for identifying which of those species may be most suitable for reintroduction into Northern England;
- Inspire engagement and community discussion around species reintroduction;
- Contribute to the discussion around on reintroductions that has been set in motion by the Government's 25 Year Environment Plan; and
- Provide a template for other organisations to assess the suitability of species reintroductions in other areas.

SPECIES





WHY THESE SPECIES?

THE SHORTLIST

In discussions with the Cumbria Wildlife Trust, we decided that the report should focus on a shortlist of key species. Each species in our list of locally, regionally and nationally extinct species was assessed by:

- **the geographical range of extinction** - a species that was only extinct at a very local level was given a lower score than those extinct at a wider scale; and
- **the potential risk to human health or life** - the successful reintroduction of species such as wolves would be unlikely to be feasible, at least in the short term, due to the perception that there could be a risk to humans using Northern England for recreation. Such species were therefore given a lower score.

Through this process, a shortlist of 16 missing species was agreed.

The shortlisted species were all nationally

extinct or extinct in regions of Northern England and were all considered to present no or only a negligible risk to human health. The final selection of species from this shortlist was then completed on the basis of their potential to deliver social, environmental and economic benefits to communities in the North of England.

A wide range of benefits were considered including ecosystem services, recreation value and tourism potential. Each species was assigned a score on a three-point scale, and the lowest scoring species were excluded. This resulted in a final list of 10 species.



SPECIES PROFILES

AN OVERVIEW FOR REINTRODUCTION DISCUSSIONS

In the following profiles, we set out a brief description of the species and its natural history, its UK conservation status, indicative assessments of what each species could contribute ecologically, socially and economically, and a summary of what the benefits and costs for local communities might be. The sections summarising the social impacts of each species do not look at the considerable inherent value of being able to share a landscape with these species.

The following sections describe the species that we selected through our shortlisting process:

1. **Beaver**
2. **Chough**
3. **Common crane**
4. **Elk**
5. **Golden eagle**
6. **Lynx**
7. **Pine marten**
8. **Wildcat**
9. **White-tailed eagle**
10. **Silver-studded blue**





BEAVER

- UK conservation status: *Now a native species in Scotland*
- International conservation status: *Least concern*
- Missing from Northern England since: *1500s (the last reference to beavers in England is from 1526)*
- Scientific name: *Castor fiber*

BEAVER

THE EURASIAN BEAVER IS THE LARGEST NATIVE RODENT IN EURASIA.

The charismatic beaver was hunted to extinction in the UK for its fur and castoreum (beaver secretions which are used in medicines). Beavers are now gradually being brought back to the UK through reintroductions in both England and Scotland.

Beavers can bring many benefits to the local environment, including improving water quality and reducing flood risk downstream by creating large wetlands that are rich in biodiversity.

However, the wetlands that beavers create can sometimes flood farmland and riverside woodland can also be restructured through the actions of the beaver.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	Beavers modify their ecosystems, delivering substantial increases in the diversity of flora and fauna. Improvements to water quality may improve the ecological status of water courses further downstream.	In modifying landscapes and creating wetlands, there is inevitably restructuring of former habitat types - typically riparian woodland. The abundance of this habitat (affected mostly by wider land use factors) might need to be assessed locally before advocating reintroduction.
SOCIAL	Beavers offer great potential for community involvement and education because of their significant capacity to alter landscapes and their distinctive appearance and behaviour. Volunteering and school visits have been highly beneficial in existing reintroduction sites.	Whilst beavers are thought to reduce flood risk in general, there is evidence that they can also cause damage to low-lying transport infrastructure and can result in the loss of farmland. It might be necessary to compensate affected farmers, put in place a local exit strategy (in case it is needed) or provide other safeguards on impacts.
ECONOMIC	There is a high potential for economic benefits through reintroducing beavers. These will most likely be linked to tourism and the potential for reducing flood damage because beaver dams act as natural flood risk mitigation measures. There is also evidence of beaver-altered habitats improving water quality, which would provide secondary benefits for water companies and potentially for recreational fisheries.	Other reintroductions have identified significant costs in terms of practical reintroduction efforts, and costs through damage to infrastructure, flooding of low-lying farmland and reduced forestry yields. Costs would be highly dependent on the accessibility and ownership of the selected reintroduction site, but are expected to be lower (due to land use and the terrain) in Cumbria than in other reintroduction areas.

CHOUGH



- UK conservation status: *Locally extinct*
- International conservation status: *Least concern*
- Missing from Northern England since: *Around 1900, although it survived in Cornwall until 1952 and subsequently recolonised in 2001. Populations in the Isle of Man and South Wales remained strong during this time and have recently increased. There is no evidence available to determine exactly when it became extinct in the North of England*
- Latin name: *Pyrrhocorax pyrrhocorax*

CHOUGH

THE CHOUGH, A MEMBER OF THE CROW FAMILY, HAS BLACK PLUMAGE, A LONG RED BILL AND RED LEGS

The chough became extinct across most of the country by around 1900, although it survived in Cornwall until 1952 and subsequently recolonised in 2001.

Populations in the Isle of Man and South Wales remained strong during this time and have recently increased. The chough's favoured habitat is pastoral-based agriculture lying near maritime cliffs, and it has a mostly invertebrate diet, supplemented in the autumn with cereal grain.

The chough's appetite for insects might help to keep invertebrate populations in check, providing local farmers with additional pest control support.

Evidence from elsewhere in the country also shows that the presence of choughs can generate economic benefits through bird watching eco-tourism.

The establishment or maintenance of suitable habitat near chough nesting sites may, however, require changes in how we manage land.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	<p>It is possible that nesting or young choughs are preyed on by little owls and carrion crows. The reintroduction of the chough may therefore have benefits for populations of these species by providing additional prey. As a species which is dependent on healthy ecosystems with high invertebrate populations, work associated with a reintroduction would likely bring wide-ranging ecological benefits. If reintroduced, the chough could become a useful indicator of countryside ecosystem health.</p>	<p>No significant costs were identified in the literature. Any grazing or other management interventions needed to make a reintroduction feasible should be considered in light of their wider ecological impacts.</p>
SOCIAL	<p>Potential social benefits were identified that are associated with the inspirational and cultural aspects of bringing back a bird that is sometimes seen as emblematic of the West Coast of England, mining landscapes and the UK's coastal heritage.</p>	<p>The establishment and maintenance of suitable habitat near chough nesting sites may require changes in land management, which landowners may be reluctant to agree to. However, such changes would be optional and measures to promote chough populations - e.g. the seasonal use of traditional breeds of livestock, networks of suitably grazed enclosed fields - could be negotiated through agri-environment agreements.</p>
ECONOMIC	<p>Chough populations can help to keep invertebrate populations in check, thereby supporting agricultural production by helping to control any pest species.</p> <p>A study in Cornwall undertaken a few years after the return of chough indicated that people travelled from all over the UK to see the Cornish choughs, bringing an estimated £180,000 into the local economy. Similar effects are likely to be possible in Northern England.</p>	<p>The establishment and maintenance of suitable habitat near chough nesting sites may require changes in land management, which is likely to incur an associated cost.</p> <p>Choughs have, in the past, been trapped and shot mistakenly as an agricultural pest.</p>

A Common Crane is shown in profile, facing left, with its wings fully extended. The bird has a long, thin neck, a sharp beak, and a distinctive red patch on its forehead. Its body is primarily white, with dark feathers on its wings and tail. It stands on a field of dry, golden-brown grass. The background is a soft-focus landscape of trees and foliage.

COMMON CRANE

- UK conservation status: *Regionally extinct*
- International conservation status: *Least concern*
- Missing from Northern England since: *There is no evidence which points to the period in time in which cranes became extinct in Cumbria – however they are known to have been extinct in the UK from the 1600s until the 1900s when they began to breed again in the Norfolk Broads*
- Scientific name: *Grus grus*

COMMON CRANE

THE COMMON CRANE IS AN ELEGANT BIRD WITH LONG LEGS, A LONG NECK, DROOPING, CURVED TAIL FEATHERS, AND A FIERY RED TUFT ON ITS HEAD.

Cranes were once widespread throughout the UK but became extinct through the loss of wetland habitat to farming, industry, and hunting around the 1600s. There is a small, but slowly expanding breeding population centered on Norfolk, a reintroduced population in Somerset and small numbers pass through Britain in spring and autumn.

The favoured habitat for cranes in Europe is predominately wetlands, however they also use farmlands as feeding grounds.

The crane is an omnivore, feeding on a variety of stems, leaves, fruits and seeds as well as insects, snails, worms, and crabs.

The reintroduction of cranes may have positive benefits for eco-tourism in the area on a seasonal basis. As cranes may use farmland as feeding grounds, particularly when spilled grain is available, there is a very minor potential for adverse effects on arable crops.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	Aside from the inherent benefits of restoring part of an ecological community, no specific benefits were identified in the literature.	Invertebrates, amphibians, rodents and small birds are potential prey for the common crane but population-level effects are considered unlikely.
SOCIAL	The reintroduction of the common crane in Northern England may raise the profile of certain wildlife sites if they are frequented by the reintroduced individuals and there may be benefits for local education.	No significant costs identified.
ECONOMIC	The reintroduction of the distinctive common crane, with energetic courtship dances, in Northern England may raise the profile of certain wildlife sites if they are frequented by the reintroduced individuals and there may be positive impacts on local wildlife tourism.	Common cranes may use farmland as feeding grounds. As such, there may be the potential for minor impacts on arable farm crops.



ELK

- UK conservation status: *Nationally extinct*
- International conservation status: *Least concern*
- Missing from Northern England since: *between 2000BC and 1000BC*
- Scientific name: *Alces alces*

ELK

IF REINTRODUCED, THE ELK WOULD BECOME THE LARGEST WILD ANIMAL ROAMING ENGLAND'S WOODLANDS AND WETLANDS

The elk has been absent from England since the Bronze Age, although it is possible that they survived in Scotland up to 900AD. Male elk can reach nearly half a tonne in weight, but are generally timid and slow-moving animals outside the breeding season. A reintroduced population would likely spend its time moving between habitats such as woodland, lakes and wetlands.

Elk are a beautiful and charismatic species, in part due to their epic stature and the male's huge antlers (spanning up to 2 metres). The potential for elk to affect agriculture and forestry, which are already faced with pressures from other native deer species, would need to be considered, particularly if any assessment showed that their range could expand beyond a reintroduction site.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	<p>Aside from the inherent benefits of restoring part of an ecological community, it is possible that elk, as large mammals, would act as ecosystem engineers – breaking the ground and creating altered or niche habitats for other species.</p> <p>The elk’s tendency to create mazes of trampled paths through riverside habitats may contribute to the restoration of these habitats and the services of nutrient and water flow management that these habitats can provide.</p>	<p>There is potential for overbrowsing impacts in woodland where elk would be reintroduced due to the lack of natural predators. Studies have shown elk can prevent saplings from developing into canopy trees and can change the distribution of certain tree species. However, the elk’s solitary nature might mean that these impacts would be less than those caused by other deer species.</p>
SOCIAL	<p>The reintroduction of the elk in Northern England may raise the profile of certain wildlife sites if they are frequented by the reintroduced individuals and there may be positive impacts on local education.</p>	<p>It is likely that elk could pose a threat to human health due to road traffic accidents in the same way that deer already do throughout much of the UK.</p>
ECONOMIC	<p>No specific benefits were identified in literature but we would expect such a large and charismatic mammal to attract visitors providing tourism and increased outdoor recreation benefits.</p>	<p>Elk might become a pest for arable crops and forestry. There may therefore be an economic cost associated with this, along with costs associated with managing the population.</p>



GOLDEN EAGLE

- UK conservation status: *Regionally extinct*
- International conservation status: *Least concern*
- Missing from Northern England since: *The golden eagle was exterminated from England and Wales by 1850, but there was after recolonisation in the 1970s, until recently, a single breeding pair in Cumbria*
- Scientific name: *Aquila chrysaetos*

GOLDEN EAGLE

CUMBRIA HAD ITS VERY OWN RESIDENT GOLDEN EAGLE UNTIL 2016, AND A REINTRODUCED POPULATION COULD SHARE THE SKIES WITH A RECENTLY BOOSTED POPULATION IN SOUTHERN SCOTLAND

Golden eagles, the UK's second largest bird of prey, once patrolled the skies over the uplands of much of Northern England and Wales, but were exterminated by humans for their impact on agriculture and the grouse reared on shooting estates. A reintroduced population in Northern England could connect with Scottish populations, making a smaller population in England more viable than it would otherwise be.

Whilst most frequently seen gliding over moorlands in pursuit of rabbits or other small animal prey, the golden eagle forms its nest, known as an 'eyrie', on craggy cliffs or in tall mature trees.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	The North of England is thought to contain sufficient habitat to support golden eagles (and has until recently been home to a single pair) but there is little specific evidence of ecological benefits. Predation of small grazing mammals, such as rabbits, could contribute to increasing grassland floral diversity in the uplands and predation by the golden eagle could also help to regulate populations of other species such as young deer and foxes.	No significant negative impacts identified.
SOCIAL	The size and charisma of this species, and its recent history in Northern England, is likely to generate support and excitement around its return. The magnitude of possible tourism and economic benefits is unknown, but is indicated by national interest in recently resident pairs.	Their recent presence in Cumbria makes it unlikely that a reintroduction or translocation would face strong opposition. The few documented cases of golden eagles taking live lambs suggests that a small, but real, cost will be imposed on the farming communities of the uplands. Upland farmers might want reassurance that populations or impacts could be controlled in the event that there are demonstrable and significant negative impacts on sheep farming.
ECONOMIC	The national attention paid to the last pair of eagles in Cumbria suggests that wildlife watchers would be encouraged to visit by the presence of golden eagles.	The impacts on farming are likely to be small in magnitude, as there is little evidence of predation on live sheep. There may be costs for the grouse shooting industry though the impact on managed grouse populations is unlikely to be significantly greater than those of other birds of prey, or to make such businesses unviable. It is likely that any costs would be limited by the eagles' specific habitat requirements – areas without cliffs, crags and trees would be less attractive to breeding golden eagles.



LYNX

- UK conservation status: Nationally *extinct*
- International conservation status: *Least concern*
- Missing from Northern England's landscape since: *AD 700*
- Scientific name: *Lynx lynx*

LYNX

THE EURASIAN LYNX IS A SELDOM-SEEN MEMBER OF THE FOREST COMMUNITY - IT IS PERHAPS FOR THIS REASON THAT THE REPORTED DATES FOR ITS EXTINCTION IN BRITAIN VARY WIDELY

Ranging today from Siberia to North-western Europe, the Eurasian lynx is a seldom-seen member of the forest community. It is perhaps for this reason that the date for its extinction in Britain varies widely by source between around AD 400 and the medieval period (5th to 15th centuries).

Where they still exist, lynx have a strong preference for roe deer as prey but will take other animals including rabbits, hares and foxes when they can't find their favoured large deer species.

The lynx is subject to growing interest for reintroduction in the UK, partly because of successful schemes elsewhere and the potential to generate tourism and recreation opportunities.

The issue is not without controversy, however, with many farmers and rural communities worried about the impact on livestock and farm businesses.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	Reduction in deer populations, particularly roe deer, could benefit woodland regeneration. There would likely be some predation by lynx of mesopredators, such as foxes and mustelids, which might prove beneficial for prey species such as birds and small mammals.	No significant ecological costs were identified in the literature. Deer populations are considered large enough (typically in excess to 'natural' predator-regulated levels) to cope with lynx reintroduction.
SOCIAL	There is the potential for social benefits through increased interest in conservation and nature in both adults and young children, including educational benefits – public consultation elsewhere suggests high levels of interest.	There is a demonstrated risk of tension between local farmers and local community members in favour of lynx. Work would need to be undertaken to anticipate and alleviate this issue in advance of any reintroduction.
ECONOMIC	There is huge potential for reintroduced lynx to boost the value of tourism in Northern England, as has been demonstrated in work looking at the tourism effects of lynx present elsewhere in Europe. Their impacts on deer populations might also help forestry operations in Northern England, by reducing the browsing of saplings.	Costs for livestock compensation and preventative measures (such as guard animals) are unlikely to be high, but local livestock farmers will likely require robust assurances and safeguards. A contained trial might require expensively engineered fencing and, for a wider reintroduction, fragmented habitat might mean that habitat connectivity projects need to be undertaken.

A pine marten is perched on a weathered log in a forest. The animal has a dark brown body with a lighter, yellowish-brown throat and chest. It is looking towards the left of the frame. The background is a lush, green forest with a blurred waterfall on the right side. The text "PINE MARTEN" is overlaid in the center of the image in a white, bold, sans-serif font.

PINE MARTEN

- Conservation status: *Locally extinct*
- International conservation status: *Least Concern*
- Missing from Northern England's landscape since: *Early 20th century*
- Scientific name: *Martes martes*

PINE MARTEN

THE PINE MARTEN IS A CAT-SIZED MEMBER OF THE WEASEL FAMILY WHICH IS BROWN AND CREAM IN COLOUR WITH A LONG BODY

Generally, pine martens are found within native woodlands but are also found in conifer plantations and on rocky hillsides.

Once widespread across the UK, pine marten populations suffered from persecution, habitat loss and fragmentation, reaching their lowest number in the late 19th century.

Though they recovered a little from a dramatic decline, the species is still rare and populations in England and Wales have failed to increase naturally.

Reintroduction of the pine marten could bring positive economic impacts through ecotourism and could also help with recovery of red squirrel populations. However, there are possible costs to poultry and game keepers if their stock is predated.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	<p>The potential for the pine marten to support red squirrel recovery is documented and could be further investigated.</p> <p>The pine marten acts as a seed disperser within the woodland ecosystem, helping with regeneration and afforestation. Restoring diversity in native predator communities can contribute to ecosystem resilience.</p>	<p>Community-level effects could occur with the pine marten's predation on smaller mammals and birds, but there is little or no evidence of this from relocation projects in Wales.</p>
SOCIAL	<p>The pine marten is a charismatic and iconic species. Helping a species to recover from near extinction would contribute to positive community engagement and education in conservation and nature.</p> <p>The public is interested and broadly supportive of reintroducing charismatic species such as the pine marten.</p>	<p>Pine martens avoid open land but may be encountered in buildings or pheasant pens within woodlands, potentially increasing the likelihood of conflict with human activity.</p> <p>Although there has recently been an overall decrease in persecution, there may be concerns within the game shooting community.</p>
ECONOMIC	<p>Whilst perhaps less than for larger or better known predators, the pine marten would likely generate significant tourism benefits. The nocturnal habits of the pine marten might increase these benefits by encouraging visitors to stay overnight.</p>	<p>There is potential for costs to poultry and game keepers if their stock is predated.</p>



WILDCAT

WILDCAT

WILDCATS USE FOREST AND MOORLAND EDGE TO HUNT, AND REST IN THICKETS, DENS OR FORESTS BY DAY.

Wildcats resemble large domestic cats with a broad head, and a brown coat with black tabby stripes.

Wildcats are solitary animals and are most active at dawn and dusk when hunting or marking home ranges. They spend daylight hours resting in thickets, dens or forests.

Once found across the British mainland, since the mid to late 1800s they have only survived in the Scottish Highlands and are now critically endangered. The remaining population is estimated to be between 100 and 300.

Their extinction has been driven largely by hybridization with feral or domestic cats and persecution for fur and by gamekeepers; destruction of their favoured habitat of broad-leaved and mixed forests has also been a contributing factor.

The wildcat is of high cultural importance in Britain, particularly amongst some clans in Scotland. As such, there is potential for education and wildlife tourism, but sightings are likely to be rare.

Wildcats prey upon small to medium-sized animals such as rabbits, rats, and hares, but are unlikely to affect the populations of prey species in a significant manner due to the low population density of wildcats. Wildcats could be affected by several diseases that can be spread from feral and domestic cats presenting a risk that would need to be considered in any reintroduction.

- Conservation status: *Extinct in England and Wales*
- International conservation status: *Least concern*
- Missing from Northern England's landscape since: *The mid to late 1800s*
- Scientific name: *Felis silvestris*

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	Wildcats prey upon small to medium-sized animals, such as rabbits, rats and hares, and they could be ecologically important in contributing to the regulation of these prey animal populations, as these species currently lack a natural predator.	They can be hosts to parasitic worms due to their carnivorous diet. There might be risks of domestic cats and wildcats exchanging pathogens, particularly lungworm. Wildcat populations in Scotland are commonly infected with domestic cat viruses such as feline leukaemia virus.
SOCIAL	The wildcat is of high cultural importance in Britain, particularly amongst some clans in Scotland. As such, there is potential for wildlife tourism, but wildcats are very secretive, so sightings are likely to be rare. There is also potential for education for schoolchildren and local communities.	There may be conflicting views from bird conservation groups and those of carnivore conservation groups. Concerns might be raised if they are reintroduced to areas near grouse moors or pheasant shoots due to conflict with gamekeepers, although birds are not important in their diets. The risk to wildcats of hybridization with domestic cats would mean that a reintroduction in a populated area would need to be accompanied by a neutering or feral cat control programme.
ECONOMIC	There is potential for wildlife tourism to generate income, but wildcats are very secretive, so sightings are likely to be rare.	No significant economic costs were identified in literature, but it is possible that the predation of game birds could incur some cost.

A detailed photograph of a White-tailed Eagle in flight. The eagle is shown from a side profile, flying towards the left. Its wings are fully extended, revealing the intricate structure of the feathers, with the primary feathers on the right wing appearing dark and the secondary feathers on the left wing showing a lighter, brownish-tan hue. The eagle's head is turned slightly towards the viewer, showing its sharp yellow beak and a light-colored eye. Its talons are visible, extended downwards. The background is a soft, out-of-focus landscape with warm, golden-brown and green tones, suggesting a natural habitat. The text "WHITE-TAILED EAGLE" is overlaid in large, white, sans-serif capital letters across the center of the image.

**WHITE-TAILED
EAGLE**

- Conservation status: *Extinct in England and Wales*
- International conservation status: *Least Concern*
- Missing from Cumbria's landscape since: *Early 20th century*
- Scientific name: *Haliaeetus albicilla*

WHITE- TAILED EAGLE

THE WHITE-TAILED EAGLE (ALSO KNOWN AS THE 'SEA-EAGLE') IS THE LARGEST UK BIRD OF PREY WITH A WINGSPAN OF AROUND 2.2M.

These massive birds were once widespread in the UK, hunting fish, birds, hares, rabbits and also scavenging food from other predators.

White-tailed eagle populations first began to decline in the 1800s and they were officially extinct on the British Isles in 1918. The white-tailed eagle was successfully reintroduced in Scotland and now has a steadily increasing population.

The species thrives in temperate, boreal, and tundra zones, with large open expanses of lakes, coasts and river valleys. They prefer to live in coastal zones with undisturbed cliffs and nest in ledges or in old-growth trees.

On Mull in Scotland, where the birds have been reintroduced, tourism is estimated to bring in an additional £1.4-1.6 million per year.

However, the white-tailed eagle is perceived by the farming community to pose a threat to local livestock, a view supported by evidence of occasional lamb predation by some birds.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	The potential for white-tailed eagles to control populations of mesopredators, such as foxes and mustelids, might benefit ground-nesting waders, raptors and other species. Predation of small grazing mammals, such as rabbits, could contribute to increasing grassland floral diversity in the uplands. Predation by the white-tailed eagle could also help to regulate populations of other species such as young deer.	As populations increase, there is a potential increased impact of predation on any vulnerable seabird populations, particularly black guillemot at St Bees Head, and over-wintering geese. Other than this, there are few known negative ecological impacts to reintroducing the white-tailed eagle.
SOCIAL	The white-tailed eagle was once a widespread bird and its extinction was a major cultural loss to the UK. The public are generally interested and supportive of reintroducing the white-tailed eagle.	In the case of the Scottish reintroduction programme there were fears among sheep farmers of lamb predation, but positive collaboration between Scottish National Heritage and NFU Scotland has helped to mitigate these concerns. Difficulties in reintroducing the eagle in England will likely come from the farming community due to perceived levels of lamb predation.
ECONOMIC	On Mull in Scotland, tourism is estimated to bring in an additional £1.4-1.6 million per year, which is equivalent to 36-42 full-time jobs. There might be agricultural and tourism benefits from the eagles' predation pressure on breeding and moulting goose flocks. Any livestock costs might also be balanced by the eagles' ability to control the populations of other predators, such as foxes, and reduce disease risk by scavenging carrion.	The white-tailed eagle could be considered a threat to local livestock. The Sea Eagle Management Scheme in Scotland has been launched jointly by NFU Scotland and Scottish Natural Heritage as a collaborative scheme to provide support to any affected farmers, and a similar scheme might be implemented for a reintroduction in Northern England. The scale of this potential cost is not thought to be high in economic terms but might still be seen as unacceptable by some farming communities.



**SILVER-STUDDED
BLUE**

- Conservation status: *Locally extinct*
- International conservation status: *Data deficient*
- Missing from Cumbria's landscape since: *1800s*
- Scientific name: *Plebjus argus*

SILVER- STUDDED BLUE

THE SILVER-STUDDED BLUE IS A STRIKING BUTTERFLY FAMOUS FOR THE MALES' BRIGHT BLUE SILVER SPOTTED WINGS FRAMED WITH BLACK AND WHITE

The species can be found across Europe and Asia, but has experienced a severe population decline in the UK due to habitat loss and fragmentation.

Generally, it emerges in June and is often seen, where it occurs, until the end of August. It is found in heathland habitats that have shorter, sparsely vegetated areas and the species is geographically restricted to close-knit colonies in Southern England and Wales.

One of the factors that makes the silver studded blue so interesting is that it shares its lifecycle with ants, which tend to their pupae and caterpillars; looking on them as their own nest-mates. This interesting adaptation might offer potential for engagement with local schools and interest groups. This species wouldn't make as large an impact as some others in this list but, both positive and negative impacts across key social, economic, and ecological indicators are possible.

BENEFITS AND COSTS

	BENEFITS	COSTS
ECOLOGICAL	Aside from the inherent benefits of restoring part of an ecological community, no specific benefits were identified in the literature.	None identified. The significant areas of heathland and mixed vegetation in Northern England should make the costs of any necessary habitat preparation minimal. Any grazing or other management interventions needed to make a reintroduction feasible should be considered in light of their wider ecological impacts
SOCIAL	The interesting life history of the silver-studded blue might offer potential for engagement with local schools and interest groups. There is potential for volunteering opportunities to be created through their habitat management requirements.	None identified, though the fact that the reintroduced species would not be a subspecies that was previously present (as this subspecies is believed to be extinct) may somewhat reduce the cultural value of the reintroduction.
ECONOMIC	There may be some increase in tourism or visitor rates on account of the reintroduction, but this is likely to be very small in magnitude without significant promotion and other reintroductions, or education in association with the reintroduction.	None identified. The costs of introduction are expected to be low due to the relatively simple logistical requirements for transferring and releasing invertebrates.

NEXT STEPS

A scenic landscape featuring a large, calm lake in the middle ground, flanked by rugged, rocky mountains. The foreground is filled with lush green vegetation. The sky is a deep blue with scattered white clouds. The text "NEXT STEPS" is overlaid in the center in a bold, white, sans-serif font.



MOVING FORWARDS

ENGAGING COMMUNITIES

The Lifescape Project intends to engage with local communities in order to open up a debate on the reintroduction of species which are currently locally extinct in Northern England. This will include both online and face-to-face discussions. Please go to <https://lifescapeproject.org/our-work/speciesreintroductions/> to find out more about ways to engage in the discussion.

FIND OUT MORE

Over time, we plan to sharing online our materials and links to some of the evidence that underpins this report online. Please go to <https://lifescapeproject.org/our-work/speciesreintroductions/> to find out more.

Contact us through:

- our website, www.lifescapeproject.org; or
- email at: reintroduction@lifescapeproject.org

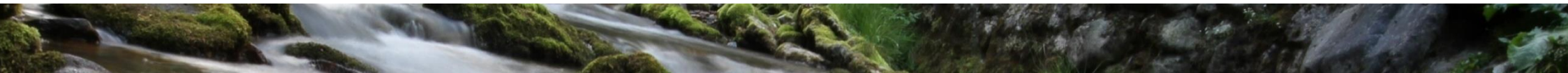
Take our survey to contribute your views:

- <https://www.surveymonkey.co.uk/r/72WT98B>

USING THE LIFESCAPE PROCESS

As an organisation, the Lifescape Project wants to enable as much positive action in the world of conservation and species reintroduction as it can. We are happy to provide materials and support the creation of reports for other groups or areas as required.

Please get in touch for more information.



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