



Which species will suffer more from climatic change on the Island?

This section is intended to be used in an hours lesson with a class, they can work in pairs or groups and debate which species will succeed as the climate changes and which are likely to die out.

The next page gives some hints and tips for sorting out the species. It is best if the species are looked at in pairs ie birds, insects etc to simplify the task.

The last page gives you some back ground information. If you use the hedgehog video this will take the animal pair debate a bit further as though out of the two hedgehogs look set for survival they might well die out too.

Things are more complicated than stated here, due to pressures of habitat loss due to man's activities stamped on top and also that the food chains make everything interconnected, ie loss of invertebrates will affect hedgehogs etc. Nothing is ever simple in conservation! All we can be sure about is that there will be changes and we need to monitor them as closely as we can to try and mitigate against the effects of climatic change in time.

This can be such a depressing topic so please do stress that they can help out nature in lots of small ways too! (See the pledge sheet)



Which species will suffer more from climatic change on the Island?

Generally the species which have a widespread and varied diet will fair better

Those that are limited to more Northern ranges or in higher altitudes where it is colder, will find their habitat disappearing.

Species that can move quickly will be able to move as the habitat around them changes, plants which can't move will die out

Warmer weather will allow species to move onto the Island and flourish when they were never present here before. These new species might not provide food for native species or just out compete species that are already here. We call them invasive species.

The climate is changing faster than the plants and animals can adapt to the changes.

Just because a species is common at the moment does not mean it will survive the alteration to it's habitat caused by global warming.

Climatic change means rises in sea level particularly affecting coastal habitats



Here are some fact files about species on the Isle of Man. Which do you think would be able to adapt most to climatic change? You can use them in pairs ie birds, insects etc to make it easier to compare two species.

Artic Tern

Bird



Habitat Freshwater, coastal, (nest on the beaches at the Point of Ayre) wetlands.

Diet Fish, crustaceans, insects

Artic terns breed in the Arctic and the UK during summer, and travel all the way to the Antarctic for the winter.

Blackbird

Bird



Habitat Grassland, farmland, woodland, towns and gardens

Diet earthworms, various insects, berries, apples

They are found throughout most of Europe

Mountain Hare

Mammal



Habitat Found only in upland areas especially on Island most commonly heathland.

Diet vegetation and the bark of young trees and bushes.

Hedgehog

Mammal



Habitat Grassland, heathland and moorland, farmland, woodland towns and gardens

Diet all kinds of invertebrates especially earth worms and beetles, as well as amphibians, carrion and birds' eggs

Isle of Man Cabbage

Plant



Habitat this species is found mainly on the coasts, on the Island. It is also found in Ireland and Wales

Pollinated by a range of insects

Pyramidal orchid

Plant



Habitat chalk grassland, sand dunes, roadside verges and quarries.

Pollinated by day time flying moths and butterflies.

Brimstone butterfly

Insect

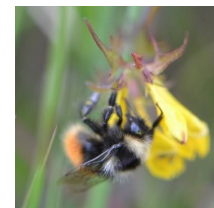


Habitat Freshwater, wetlands, woodland, towns and gardens

Diet, foodplants of the larvae eat buckthorn and alder buckthorn. Adults nectar on purple flowers, especially bluebells

Bilberry Bumblebee

Insect



Habitat found almost exclusively on upland areas above 300m altitude in association with areas of Bilberry.

Diet feeding on bilberry, trefoils, clover and heather.



Information about the species challenge.

Birds

Arctic terns are on the amber list for UK conservation (<https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/uk-conservation-status-explained/>) Climate change affects its food source and also will change its migration to Antarctica.

The blackbird's habitat range already includes a variety of climates, it has a very varied diet and should fare better.

Mammals

Mountain hares were introduced to the Island, but with climate change increasingly affecting upland areas this species will suffer loss. Here it is shown in its winter coat, however, with less snow fall it is more easily visible to its predators. We are very concerned for the population of this animal on the Island.

Hedgehogs are more adapted to climate change with a varied diet but we are unsure of the effect it will have on hibernation and hedgehogs waking when there is no food source around.



Plants

Plants can not move and are therefore more susceptible to climate change.

Isle of Man cabbage has a very distinct habitat, more dominantly in coastal locations on the Isle of Man. Unfortunately, as sea level rises it is very vulnerable to climate change. This is the only plant named after the Isle of Man, named by the great naturalist John Ray on his visit to the Island in 1660 when he found it whilst alighting in Ramsey bay. It is not confined to the Isle of Man however and also found elsewhere. It is very rare on Island and protected by the Wildlife Act.

Pyramidal orchids have a wider habitat range and have increased at our Close Sartfield Nature Reserve with a new record of over 1350 pyramidal orchids found there. It is believed that the pollinators of these plants have an extended period of flight with global warming and so can pollinate more orchids.



Insects

Because insects are so mobile and have shorter lifecycles this mean they can respond more easily to climate change, and they are often used as key markers to show the influence of global warming. Butterflies are well recorded and are easier to identify with their varied colourful markings making them excellent indicators for climite change.

Due to seasonal changes there have been a very few sightings of brimstone butterflies on Island and no evidence of them breeding here yet. However, there is not a great abundance of larval food plant for this species here. This diversification of dietary requirements according to their life cycle stage means that climate change has a double influence on butterflies due to its effect on two different food sources. Some people would like to speed up the process of butterfly species spreading here by importing some in. This makes for an interesting debate.

Bilberry bumblebee has been shown to only live in areas 300m above sea level and they can be very reliant on bilberries. This means if the bilberry flowers fail one year then so will the Bilberry bumblebee.