

Building resilience to Climate Change in the New Forest

When it comes to weather, 2020 has been another record breaking year. From a mild, wet winter recording the UK's wettest February ever, followed by the driest May in England since records began, marking the start a very dry summer. This drought has mainly been broken by extreme downpours, which have led to localised flooding across the country during August. On a global scale, 2020 is set to break more records, with arctic sea ice once again shrinking to a record low and it looks to follow the trend that has seen nineteen of the 20 hottest years occur globally since 2001¹. All of this demonstrates that the changes that we expect to see as a result of climate change are already happening. We can now all relate to the prediction of '*Hotter, drier summers and warmer, wetter winters*' not in a decade or two, but now.

A climate and ecological crisis

Alongside the changes in long term weather patterns, it is also widely recognised that we are in the midst of an ecological crisis. Last year's State of Nature report update², a self-described health check of how the UK's wildlife is faring, pronounced that populations of the key species studied have fallen by 60% since 1970. The study also found that 15% of all species studied are now at risk of extinction, including a quarter of all mammals and almost half of the bird species included. Coupled with the increased coverage and anecdotal evidence of global invertebrate declines, the group of animals that keep the world (humans included) functioning, the alarm of the ecological crisis is being sounded both clear and loud.

What can we do?

Regardless of climate change mitigation (i.e. reducing global greenhouse gas emissions to reduce the rate and severity of climate change), it is acknowledged that sufficient warming has already occurred and is yet to take effect from existing atmospheric carbon dioxide that adaptation is now required. In the spirit of thinking globally and acting locally, alongside reducing our carbon footprints, we need to think about what we can do to make the New Forest as resilient as possible to climate change. This means increasing resilience to the types of changes in weather patterns that we are now experiencing with rising severity and frequency, as demonstrated so far by 2020's weather patterns.

Thinking optimistically, in the New Forest, there is a wealth of opportunity to address the dual climate and ecological crises through implementing nature-based solutions and working in line with the New Forest's internationally important habitats that persist on a landscape scale. The ways in which we can build resilience into the local landscape to increase the ability of New Forest species and habitats to recover from extreme weather events, as well as survive under the changed

¹ <https://climate.nasa.gov/vital-signs/global-temperature/>

² [State of Nature report, 2019](#)

conditions brought about by climate change is now the key challenge. Fortunately, many of these ways of thinking and acting already align with the current best working practices.

Building resilience

The first step in building resilience to climate change is protecting and enhancing our existing significant sites for nature conservation. The New Forest is England's third largest protected site for wildlife conservation, known as Sites of Special Scientific Interest (SSSIs), and has sustained at a landscape scale in the way that so many formerly valuable sites for nature haven't. Through urbanisation, agriculture and changes in climate, many of our important wildlife sites have become fragmented patches amongst an inhospitable landscape, in turn losing their resilience to change. Therefore the importance of the New Forest as an ecologically continuous landscape should not be overlooked and critical importance should be given to the protection, enhancement and expansion of this site.

This enhancement can be achieved through addressing non-climatic adverse pressures that already limit the resilience of New Forest habitats and prevent them from functioning as well as they could. This can be through restoring hydrological function in wetland ecosystems through reversing historical man-made modifications to local hydrology. Other non-climatic adverse pressures on ecosystems that can be addressed include removal of invasive non-native species which put stress on ecological communities and outcompete native species, as well as managing recreational pressure so that sensitive habitats and species are protected.

Multiple benefits

Many of these actions can bring benefits to address both the climate and ecological crisis. For example restoring hydrological function on peat soils results in the active storage of carbon, as well as improving and expanding internationally rare and significant ecosystems. It simultaneously delivers benefits for people through slowing the flow of rainwater through wetland systems, which can help to reduce flood peaks in built up areas downstream, as well as increasing the quality of the water that passes through these systems. It goes to show that well-functioning habitats not only support their maximum wildlife populations, but also lock up carbon to their highest potential – which is particularly significant when considering the New Forest's undisturbed soils, peat-based wetland habitats and ancient broadleaved woodlands³.

Scale and refugia

A huge factor in building resilience to the effects of climate change is the scale of habitats across a landscape. Increasing landscape scale connectivity by linking up fragmented habitats on a large scale can give mobile species space to move and disperse to find more suitable habitat if conditions change and increases their ability to sustain ecologically viable populations. This includes climate change refugia, which can occur on a range of scales, from large wetland systems to woodland edges

³ [Carbon storage by habitat: Review of the evidence of the impacts of management decisions and condition of carbon stores and sources](#)

and grassland tussocks. As we'll all sympathise with after the recent heatwave, these are now likely to be cool, damp places where species can take shelter in times of extreme heat.

Another way to increase the resilience of a landscape is to allow it to expand out beyond the boundaries of protected sites into the wider landscape. This can be through providing an intelligent network of habitats across both urban and rural landscapes to join up isolated fragments of habitats so that they can function as a continuous ecosystem. This is an area of work that is gaining increasing traction at national and local scales currently, through the Nature Recovery Network⁴ and should form the basis of strategic landscape planning in both urban and rural areas.

Resources

To inform habitat management in the context of climate change, the resilience of different habitat types to the effects of climate change as well as the ways in which to increase their climate resilience can be found in the Climate Change Adaptation Manual, published by Natural England and the RSPB earlier this year⁵. This is comprised of a series of reports that detail both the adaptation vulnerability and potential of a wide range of UK habitats and species, including key New Forest habitats such as lowland heathland, wood pasture and rivers and streams.

In the face of the increasingly unfamiliar weather events that will no doubt continue for the rest of this year and beyond, our practical and urgent response must be to maximise opportunities to protect, enhance and expand the New Forest's landscape-scale network of well-functioning habitats.

⁴ [Nature Networks Evidence Handbook, 2020](#)

⁵ [Climate Change Adaptation Manual, 2020](#)