

Summary of Ecological Evidence for the Dartmoor Independent Evidence Review presented on 3rd November 2023

Key points.

- The habitats and ecosystems on Dartmoor are in a significantly degraded condition.
- This affects biodiversity and the ecosystem services they provide. These are ecosystem services that provide benefits to society beyond Dartmoor.
- The ecosystems have been in poor condition and declining for a long time but there is also evidence of more recent declines in some places.
- The main reasons for this are land management practices – draining, burning and overgrazing.
- The solutions are hydrological restoration on peatland and significant changes and reductions in grazing.

In making these general statements we are aware that there is variation across the moor in terms of vegetation, past and current management. The best management will also vary and needs to be tailored in agri-environment agreements or similar. However, if we look at the moor as a whole these key points are true and have sound evidence bases.

Importance

Dartmoor has nationally and internationally important habitats and ecosystems. SSSIs are designated for nationally important habitats and species features. Some of these are important at a European level. The UK has a significant proportion of the world's blanket bog which includes the resource on Dartmoor.

These ecosystems are important for biodiversity itself and the inherent value that people give to that as well as the ecosystem services and resulting societal benefits.

The government's Environmental Improvement Plan commits us to leaving the environment in a better condition for the next generation and takes a natural capital approach to doing this. This builds on the work of the National Ecosystem Assessment, Natural Capital Committee and the Dasgupta report.

The issue on Dartmoor is not a binary wildlife vs farming question. We need to look at this in terms of natural capital – provisioning services (food and water), regulating services (pollination, carbon sequestration and climate regulation, water quality) and cultural services (recreation, landscape character).

Ecosystem condition

These habitats and ecosystems are in poor and degraded condition. There is evidence that they are continuing to decline.

We have evidence from 30 years of agri-environment monitoring, 20 years of SSSI condition assessments and intensive overgrazing surveys from 1998 to 2010. These consistently show:

- Poor and unfavourable habitat condition.
- Heavy grazing pressure on vegetation, particularly dwarf shrubs affecting vegetation structure, dwarf shrub structure and cover.

- Declining condition in many places. On some sites this has happened relatively recently.

Despite being in agri-environment monitoring evidence has not shown recovery of degraded vegetation on many sites/commons.

Although the cover of dwarf shrubs is low and has declined, they are still frequent, ie not much but well scattered through the grassy vegetation. This indicates good potential for recovery but continued heavy grazing could lead to their loss.

There is a risk that they may deteriorate beyond the point at which they can be restored, and this is what we mean by tipping point.

There is little evidence of significant increases in bracken or European gorse cover.

Reasons for unfavourable condition

Natural England undertook large and systematic uplands evidence reviews just under 10 years ago and these provide excellent and still relevant collations of the science and evidence. Combined with evidence from vegetation monitoring and case studies these support our view that changes have been primarily driven by land management practices.

- Drainage affecting blanket bog and other mires, drying peat and resulting loss of diverse flora and peat forming Sphagna.
- Agricultural burning with high frequency (annual, biennial) degrading blanket bog and wet heath habitats and favouring the overabundance of Molinia.
- High grazing pressure leading to degradation of the heathland and loss of dwarf shrub cover.

During the 1980s, 90s and early 2000s there were high numbers of cattle overwintered on the moor and high sheep numbers. There were significant reductions during 2000s because of cross compliance and agri-environment agreements. These halted or reduced decline in many areas but did not result in recovery.

Other factors (climate change or air pollution such as nitrogen deposition) will be affecting the moor, but we believe that land management is the most significant.

Ecosystem restoration

If we want habitats and ecosystems to be resilient to climate change and deliver key ecosystem services, then we need to restore them to favourable condition. A naturally functioning blanket bog will be more resilient than the degraded habitats we currently have.

Again our evidence comes from our uplands evidence reviews, research on grazing and burning including the body of research that was used to develop the sustainable stocking rates for agri-environment schemes. Recovery requires:

- Peatland restoration particularly the restoration of more naturally functioning hydrology.
- Significant changes to grazing management including reductions in stock on some sites and at particular times of year.

To restore these habitats the evidence indicates that that we need late spring and early summer cattle grazing and very low levels or removal of sheep grazing in the winter.