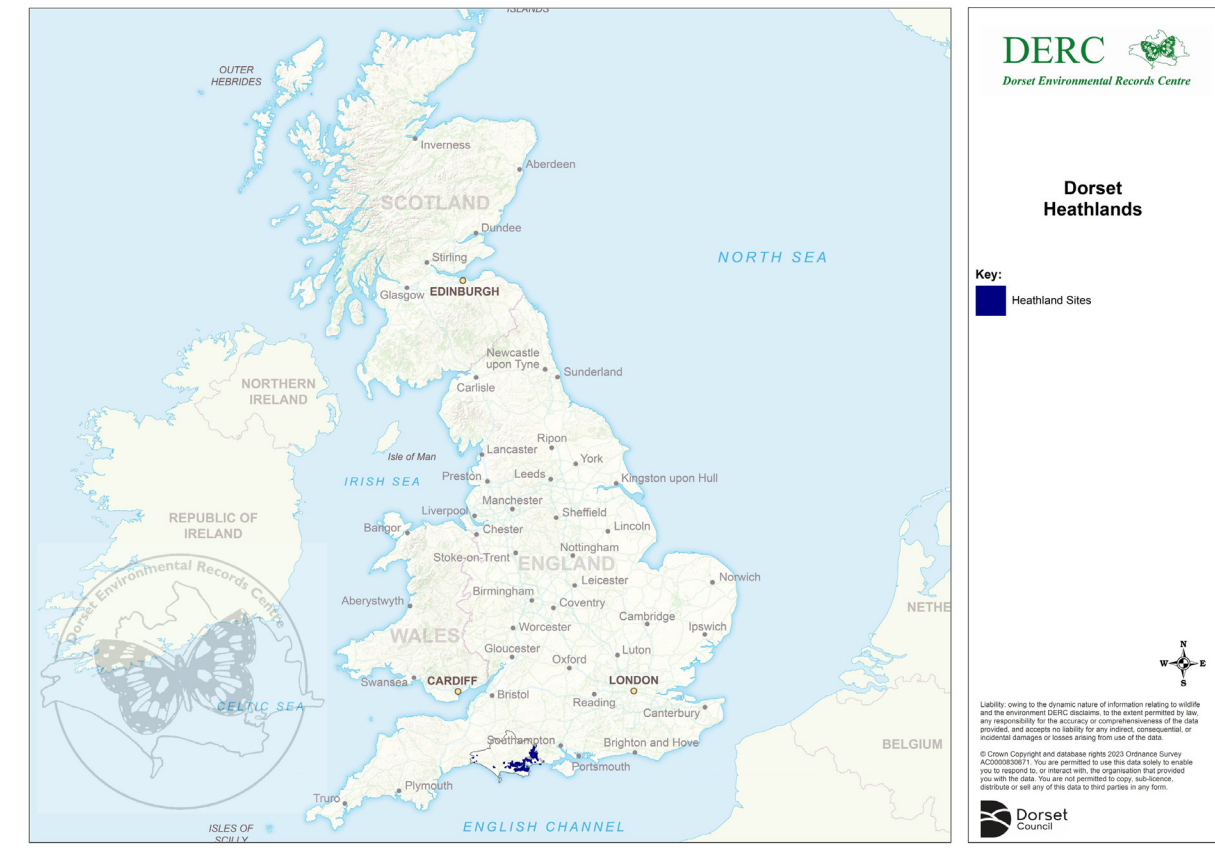


DISCOVERING DORSET'S PEATY POCKETS

Background

The 'peaty pockets' of the Dorset Heaths present a unique opportunity to restore peatlands within a mosaic of highly designated habitats containing protected species which are internationally recognised for their ecological significance.

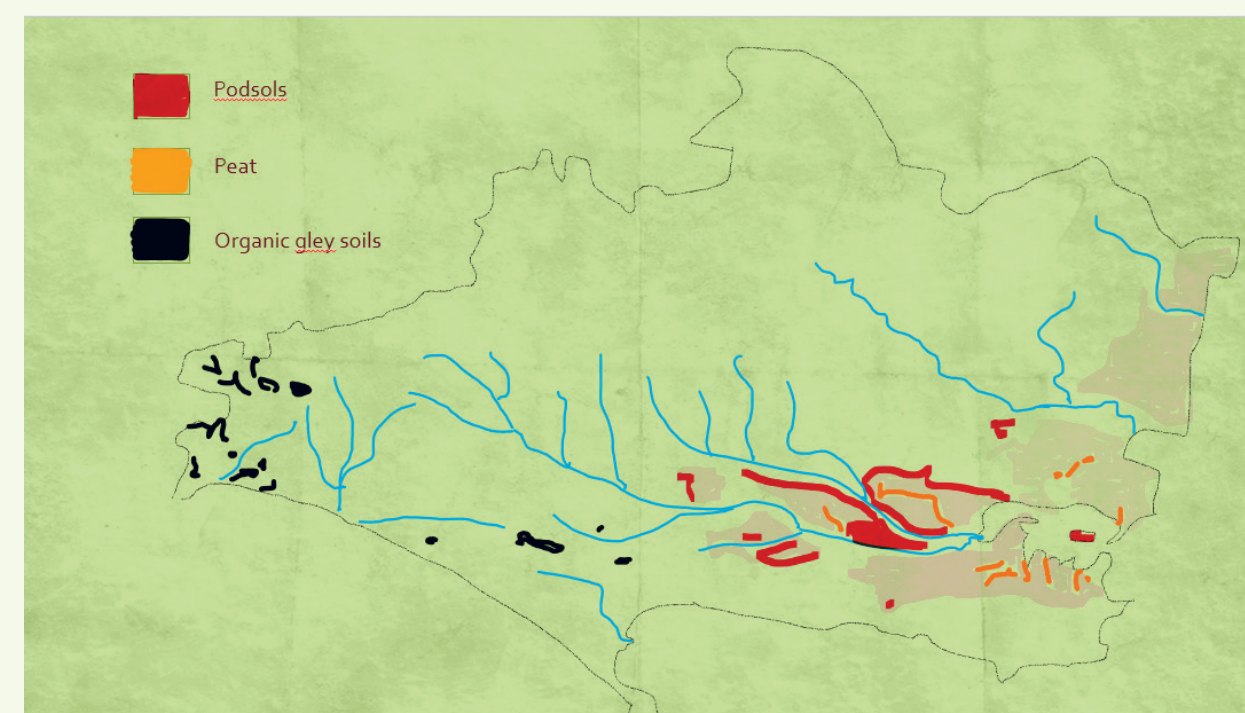
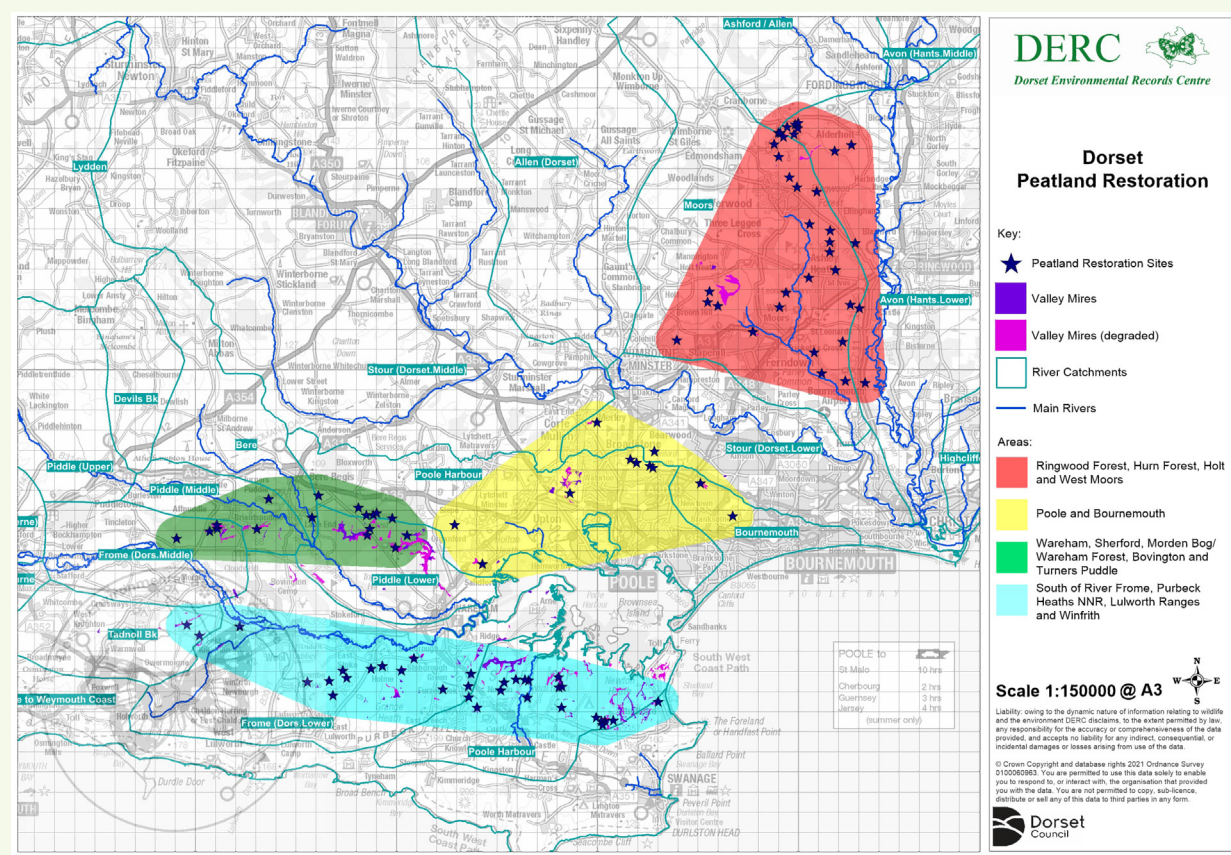
The Dorset Heaths form an important area of heathland within the Poole Basin in southern England, and they cover an



area of 61,662 hectares, the extent of their coverage can be seen on the map shown.

Peaty Pockets/Geological Context

Dorset Heaths are examples of lowland heath which exhibit both bog and fen characteristics across a mosaic of dry and wet heath habitats. The distribution of peat across the Dorset Heaths is largely aggregated throughout the valley mires which are divided by the main river systems of the Frome, Piddle, Stour and Moors which drain into the natural harbours of Poole and Christchurch.

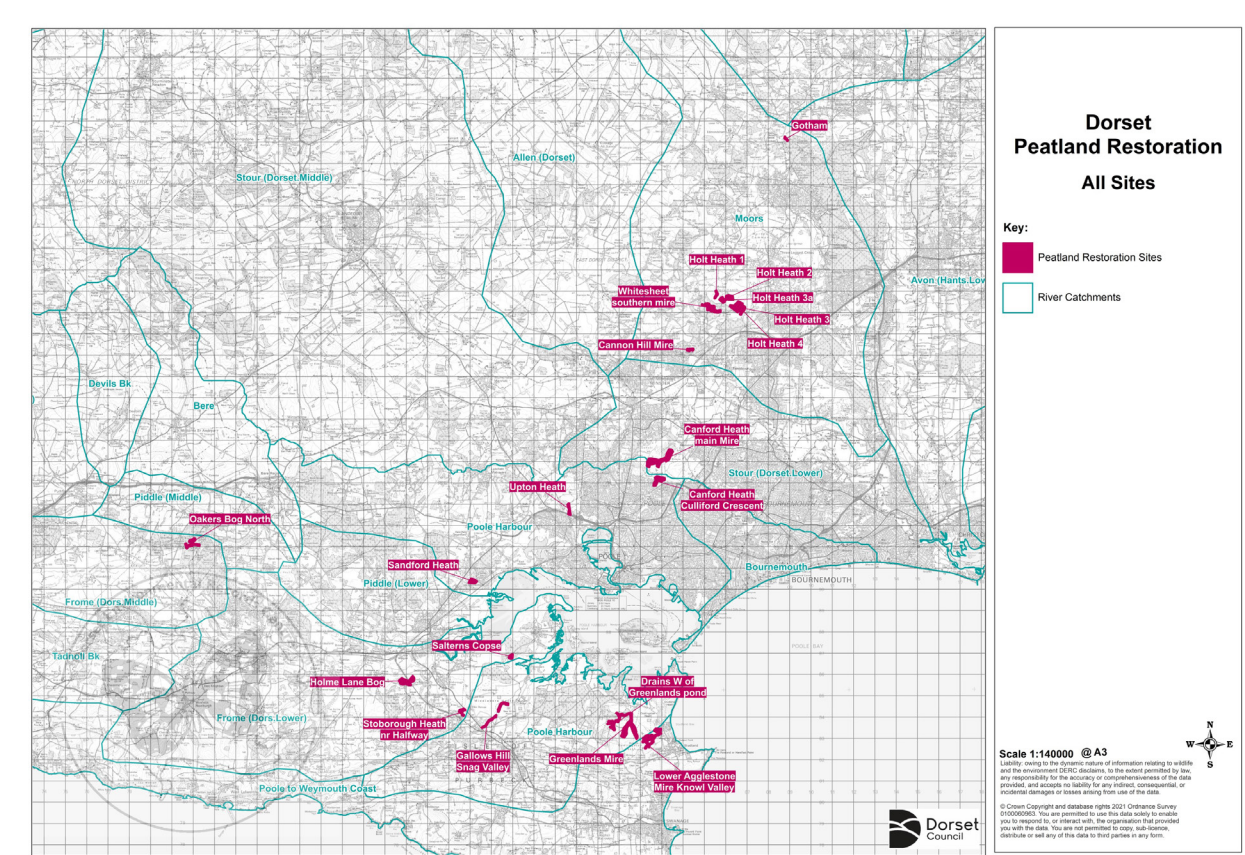
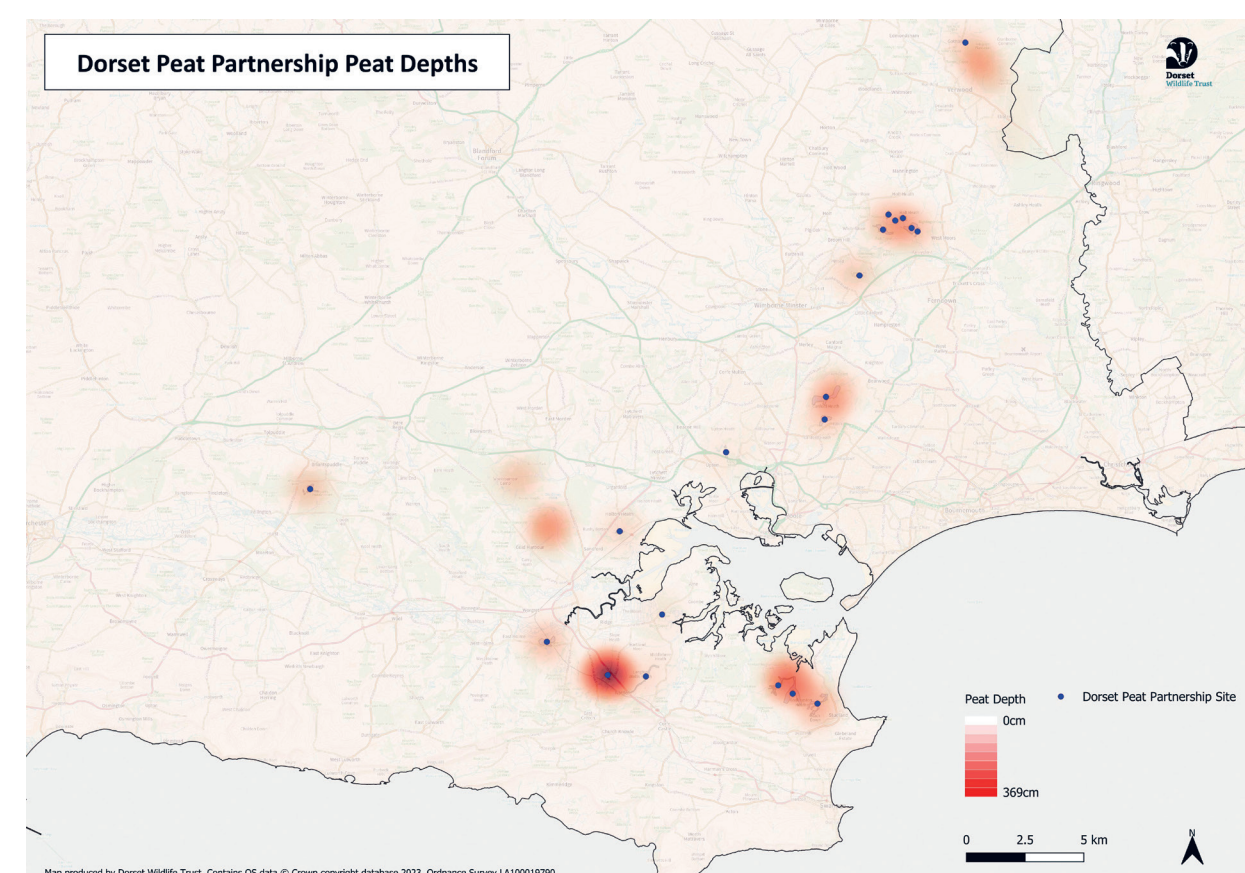


Peats and soils with peaty horizons are a significant feature of the Dorset landscape. They represent a large stock of soil carbon at risk from drainage, erosion and infrastructure developments. Valley mire earthy peat soils have formed in chalk stream flood plains – their profiles include substantial peat, co-deposited with alluvium and tufa. Extensive areas of podzols with pronounced humo-ferric B horizons are widespread in the heathland on sand and gravel terraces. Distinctive and ancient surface-water gley soils with peaty surfaces have formed on a remnant tertiary plateau topping higher ground in the West.

Discovery Grant peaty pockets findings

Discovery Grant funding from Nature for Climate Peatland Grant Scheme helped Dorset Peat Partnership to investigate which potential peatland sites in Dorset would reach the minimum depth criteria of 30cm peat to put forward for future restoration. Peat depths were recorded spatially on field mapping software by volunteers and project partners. Our survey results showed us that our sites range across a scale of 30 to 369 cm, with a deeper concentration of peat on higher ground tertiary plateaus south of Poole Harbour.

From this information and other site feasibility surveys we put forward restoration proposals to restore sixteen sites on the Dorset Heaths.



The Dorset Peat Partnership are collaborating with local community interest groups like Planet Purbeck who undertake an annual festival in Dorset during September to engage with local people about how they can get involved and connect with nature. For the 2022 festival, the Dorset Peat Partnership hosted a guided walk to give people an insight to the Peaty Pockets of Purbeck, and a short film segment from this event is available to view by downloading the QR code here.



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Conclusion

The partners involved in the NCPGS-funded project in Dorset have a long history of working collaboratively together. However, the formation of a partnership to specifically address the challenges and opportunities around peatland restoration has been vital in focusing resources on this important habitat. Having restoration funded demonstrates the national value of this mosaic of peaty pockets alongside the large blanket bogs in other parts of the country. Working together in partnership has provided, and will continue to enable, upskilling of partners across the county, and could cascade into further sites being restored after the project is complete. Developing methodologies and contracts which work across organisations has been integral to this process and has allowed economy of scale across complex land ownerships.

The restoration process of Dorset Peat Partnership's sites begins Autumn 2023; even through the planning and preparatory phases, it has already become clear that focusing resources on peatlands in this partnership way will enable more than just peatland restoration to be delivered, and our 'peaty pockets' are finally becoming an integrated part of the management of the wider heathland habitats mosaic.

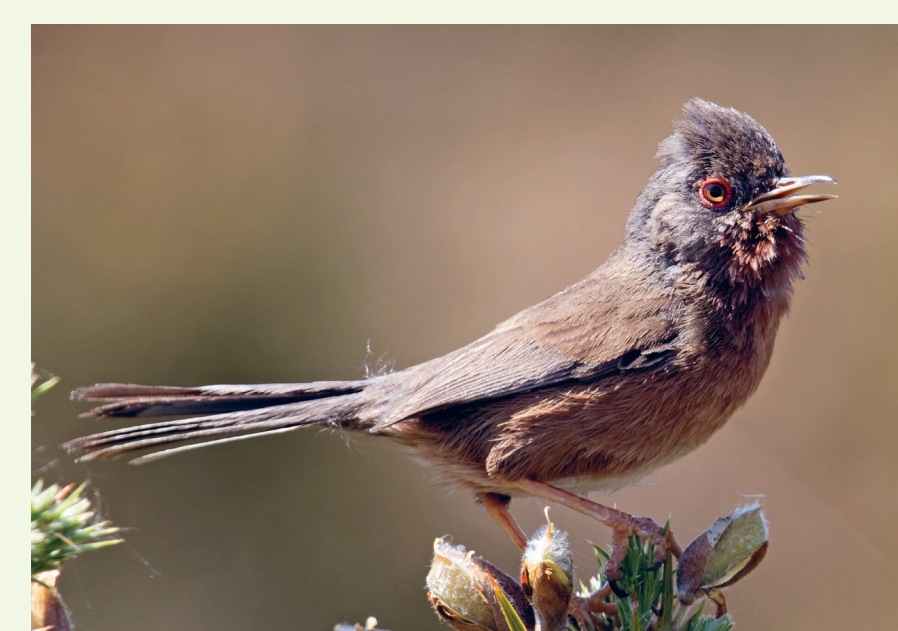
What are the specific challenges and opportunities for us and peat in Dorset?

Challenges:

- We have a range of smaller to larger scale mire sites, distributed over a fragmented landscape with variations of peat depth. The relatively shallow peat deposits makes them especially vulnerable to damage from artificial drainage.
- We have a unique array of protected areas recognised under the Ramsar convention, plus the following designations: Special Protection Areas (SPA), Special areas of conservation (SAC) and in 2020 the Purbecks Heaths received National Nature Reserve (NNR) status, which have to be considered throughout our programme of works and against the impacts of climate change.
- Retaining ecological biodiversity for the specialised species on the Dorset Heaths which include; Dartford warbler, Nightjar, woodlark, all six species of native reptiles (sand lizard, smooth snake, adder, common lizard, grass snake, slow worm), ladybird spider, Purbeck mason wasp, southern damselfly, large marsh grasshoppers, marsh gentian, bog orchid and Dorset Heath (Erica ciliaris).
- Securing future funding to support the long-term ambition (there are many more sites to restore) and legacies of restoring our peatland habitats.
- Recreational pressures and urban growth around our heathland habitats. The main settlements within the Dorset Heaths are the closely nestled together towns of Bournemouth, Christchurch, and Poole.
- High risks of anti-social behaviour and linked wildfires on urban heaths, Canford Heath which is central to Poole has mitigated its own fire issues by installing water hydrant systems within the heath complex, to reduce the response times when wildfire acts occur and reduce the scale of damage to the wildlife habitats.
- There are commercial activities such as clay mineral extractions and forestry, which are still influencing the landscape and contributing to poor baseline peat conditions.

Opportunities:

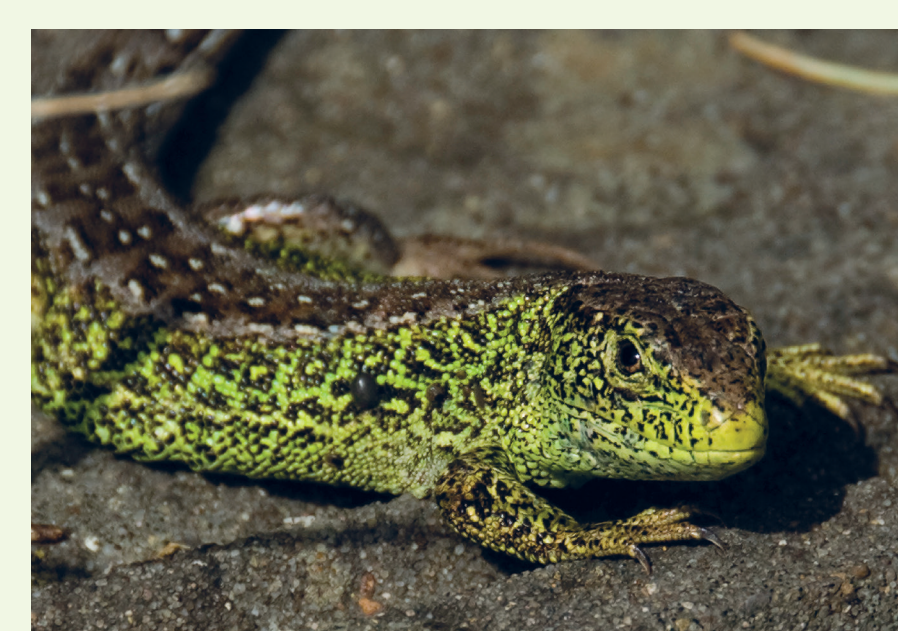
- Peatland restoration provides a huge opportunity to reconnect many of our heathland blocks which have been fragmented by past land management practices, such as agriculture and forestry.
- The mires of the Dorset Heaths represent a particularly distinctive type of Oceanic valley mires, a highly threatened peatland habitat across Europe. Restoration will contribute towards improving the quality of this restricted peatland type and the numerous species, both common and rare that are associated with it.
- Our mire habitats are dependent on the maintenance of a high groundwater table. Rewetting through drain blocking, will restore the natural processes of groundwater seeping from the superficial deposits of our low-relief landscapes, re-connecting groundwater levels with the mire surface.
- Because Dorset mires are embedded within mosaics of lowland heath habitats, restoration of the water table will also restore natural transitions to wet and humid heath, providing niches for characteristic heathland species. This will integrate with and support the drier areas of heath habitat, helping to reduce fire risks.
- Enabling our vegetation communities to expand, creating peat forming habitats will help lock in carbon and reduce our greenhouse gas emissions. Helping to store water in periods of drought, reducing downstream flooding.
- We can help to support engagement with local communities and next generation nature supporters to understand why their local ecosystems are so important and why we are working to protect them.
- Collaborating more closely with local academic institutions to advise and support our monitoring programmes.
- Dorset Heaths are managed by multiple landowners, conservation organisations and private landowners, we need to work sustainably to reach common goals for net zero targets.



Dartford warbler © Paul Williams



Canford Heath © Grace Hervé



Sand lizard © Stewart Canham



Sphagnum moss © Grace Hervé



Sundews © James Burland

Acknowledgments: Mark Kibblewhite, DERC, Sue Western (Planet Purbeck), DEFRA.

Dorset Peat Partnership is chaired by Dorset Catchment Partnerships and led by Dorset Wildlife Trust, and our partners include key landowners and managers.

Funded by

