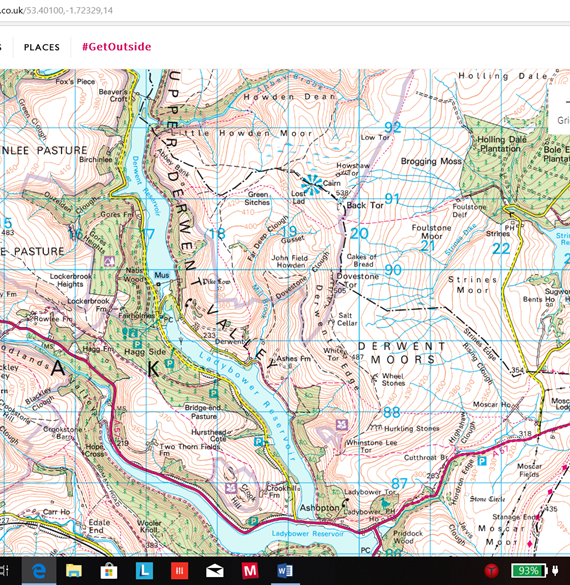
**Ecosystem Management in the UK: The Upper Derwent Valley**



Located in the Dark Peak – the northern half of the Peak District National Park. To the West of Sheffield, and to the East of Manchester. To the north of the busy A57 Snake Pass road.

**Description of the Area:**

The Dark Peak is known for its exposed moorlands, and the open undulating high gritstone plateau with extensive blanket peat covered by cottongrass, bog and heather moorland.  Below the moorland, steep-sided cloughs (valleys) may be lined with ancient areas of oak-birch woodlands.  Some of the steep valley slopes have been planted with interlocking blocks of coniferous and mixed plantation woodland while others support acid grassland.

Plateaux’s – flatter tops to the uplands – not angular tops like some mountain areas.

Steeper sides forested with commercial conifer plantations, old oak-birch woodlands, and mixed plantations

Derwent Moors

Ladybower Reservoir

[](https://www.google.co.uk/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwibqfzz_4niAhWqAWMBHWMIC4cQjRx6BAgBEAU&url=https://www.peakcottages.com/guides/dog-friendly-peak-district&psig=AOvVaw2XndRIB3VRx9J8w3op0Syd&ust=1557338416087423)

Cotton grass, bracken and bilberry amongst the heather.

Heather moorland on top of peat (a dark brown compost like soil)

Gritstone outcrops

Key Features of the Upper Derwent Ecosystem

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| [Image result for cotton grass dark peak](https://www.google.co.uk/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwiOgK_ag4riAhUD8uAKHRUoA5UQjRx6BAgBEAU&url=https://www.cicerone.co.uk/dark-peak-the-high-moorlands-of-the-peak-district-national-park&psig=AOvVaw1qnWMmL698d3DFzxv1GDOl&ust=1557339448695805) | **Cottongrass** – deep, wet, blanket bog on the plateau supports the growth of cottongrass. These are internationally very rare, with Britain having approximately 20% of the world’s coverage. |
|  | **Heather** – small scrub like bushes with purple or white flowers in summer. |
| [C:\Users\rober\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\E2132449.tmp](https://www.google.co.uk/imgres?imgurl=http://3.bp.blogspot.com/-DwlNdU9YUng/ViihJ1LG8EI/AAAAAAAAE7E/6LP6Q8t931g/s1600/Bushcraft%2BSurvival%2BCourses%2BIreland.JPG&imgrefurl=http://outdoorsireland.blogspot.com/2015/10/sphagnum-moss.html&docid=HnUXyZfXXU7CJM&tbnid=yVEZ45bsxX6CIM:&vet=10ahUKEwiGzp2VhYriAhXCURUIHbfGCtwQMwh0KAowCg..i&w=1600&h=1200&bih=747&biw=1536&q=sphagnum%20moss&ved=0ahUKEwiGzp2VhYriAhXCURUIHbfGCtwQMwh0KAowCg&iact=mrc&uact=8) | **Sphagnum moss** – a damp sponge like moss that contains many invertebrates: a useful food source for many animals. |
| [C:\Users\rober\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\9EBE963F.tmp](https://www.google.co.uk/imgres?imgurl=https://www.hutton.ac.uk/sites/default/files/images/research/Hare4Web_345x250.jpg?1344266952&imgrefurl=https://www.hutton.ac.uk/research/groups/ecological-sciences/landscape-and-spatial-ecology/mountain-hares&docid=eUUJKU4ZabhWzM&tbnid=OPuJ2X0MFQvYJM:&vet=10ahUKEwi_jdnkhYriAhVMVRUIHT7GAcEQMwhsKAIwAg..i&w=345&h=250&bih=747&biw=1536&q=mountain%20hare&ved=0ahUKEwi_jdnkhYriAhVMVRUIHT7GAcEQMwhsKAIwAg&iact=mrc&uact=8) | The Peak District is home to the only population of **Mountain Hares** in England. Brown in summer, they develop a white coat in winter for camouflage on the snowy hills. |
| [C:\Users\rober\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\D0B139A5.tmp](https://www.google.co.uk/imgres?imgurl=http://www.mullbirds.com/Ring%20Ouzel%20A9%20PIX.jpg&imgrefurl=http://www.mullbirds.com/Ring%20Ouzel.html&docid=OLXxf6jDAHpgcM&tbnid=pY5juNwGZMV_9M:&vet=10ahUKEwjhucKvhoriAhXiqHEKHVqgAEYQMwhFKAUwBQ..i&w=1208&h=800&bih=747&biw=1536&q=ring%20ouzel&ved=0ahUKEwjhucKvhoriAhXiqHEKHVqgAEYQMwhFKAUwBQ&iact=mrc&uact=8) | **Ring Ouzel** (pictured), **Merlin, Curlew, Peregrine** are also found in this precious ecosystem. |
|  | **Red Grouse** – along with rough grazing by sheep, and commercial forestry on the valley slopes, this is one of the main economic activities on the moors. Red Grouse are commercially bred on the moors, with people paying to shoot them in late summer and early autumn. |

**Why does this ecosystem need management?**

* The blanket peat bogs are very delicate. The Derwent moors are very popular with walkers (tourists), and they erode the blanket peat bogs very easily.
* In summer, the peat bogs and heather dries out and this makes is at great risk from fires.
* The blanket peat bogs act like a sponge, soaking up rain from storms and slowly releasing it. If the peat is eroded, the risk of flooding downstream from the Derwent moors increases.
* The moors support a rich, but also under threat range of species (named above). Without management these are at increased risk.
* Without management, the heather grows too bushy and is of no use to the Red Grouse as a food source.

**Management of the Upper Derwent Moorland Ecosystem**

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| **[C:\Users\rober\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\55A768B3.tmp](https://www.google.co.uk/imgres?imgurl=https://pbs.twimg.com/media/Dgs1MQSXcAILYKY.jpg&imgrefurl=https://twitter.com/peakdistrict/status/1011961028060557312&docid=jkWxqeD5D7LRpM&tbnid=lAmuAI_eR3zzqM:&vet=10ahUKEwjqx52EjoriAhVF8uAKHSblDPQQMwhDKAMwAw..i&w=743&h=1000&bih=747&biw=1536&q=peak%20district%20fire%20risk%20sign&ved=0ahUKEwjqx52EjoriAhVF8uAKHSblDPQQMwhDKAMwAw&iact=mrc&uact=8)**  **Fire Risk Education**  Teams of National Park wardens work to educate and inform visitors about the risk of fires. Notices are displayed, and in high risk areas, the use of disposable BBQ’s are prohibited.  Firefighting equipment is available to put out very small fires, and the fire service has four wheeled drive vehicles that, along with helicopters, can access and help control larger fires. This aims to reduce the damage to the ecostytem caused by fire. | **[C:\Users\rober\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\D1E78992.tmp](https://www.google.co.uk/imgres?imgurl=x-raw-image:///0ce956b7ccaf5ee3aa0036c54db5aa2e93d05c3047ada22fc3ada8e61d15ebd5&imgrefurl=http://www.moorsforthefuture.org.uk/sites/default/files/documents/MFF%20RN02%202005%20Gully%20blocking%20in%20deep%20peat.pdf&docid=1OM55Ssr3DMbHM&tbnid=416vzLdW6QwTyM:&vet=10ahUKEwjewq6_kIriAhVOD2MBHQqLDsEQMwhMKAwwDA..i&w=554&h=493&bih=747&biw=1536&q=moorland%20gully%20blocking&ved=0ahUKEwjewq6_kIriAhVOD2MBHQqLDsEQMwhMKAwwDA&iact=mrc&uact=8)**  **Gully Blocking**  Where bare peat has been exposed, small gullies are easily eroded. These stream gullies start to dry the blanket peat bog out, leading to loss of habitats, increased fire risk, and further erosion. Rainwater quickly flows off the land, inceasing flood risk downstream.  To stop this happening, simple wooden barriers are placed across the gullies, blocking the water from running off. This traps water on the moor, and helps maintain the blanket peat bogs and the ecosytems dependent on them. |