

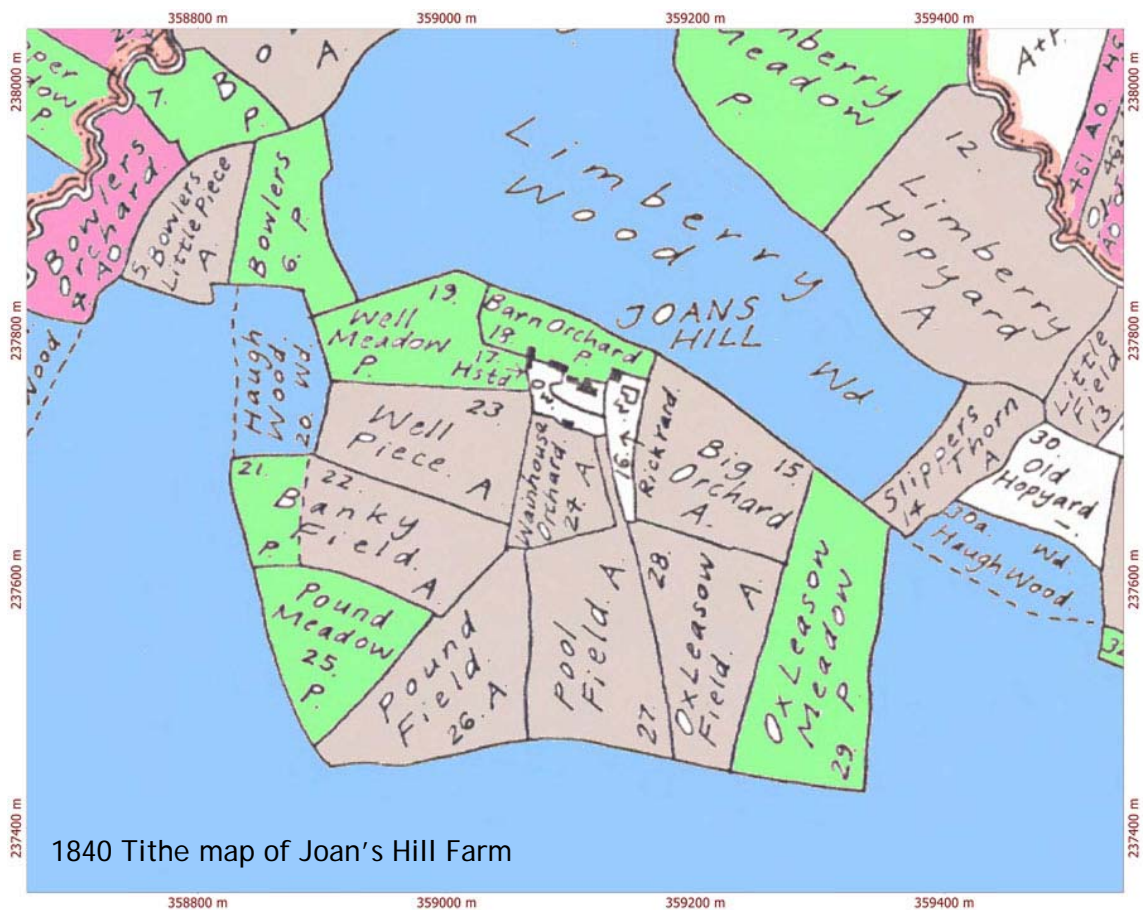
## Naturally regenerated flower-rich meadows at Joan's Hill Nature Reserve, Herefordshire

Joan's Hill Farm is a 50-acre holding of which 45 acres is grassland and five acres are woodland. 12 acres of the farm has never been agriculturally improved and has a spectacular display of grasses and wildflowers associated with older hay meadows (classified as MG5 under the UK National Vegetation Classification). The rest of the grassland was ploughed during the Second World War for crops, primarily potatoes which require large quantities of fertiliser. Following the war, the land was seeded with a species-poor agricultural grass mixture comprised mostly of perennial rye grass (*Lolium perenne*).

Plantlife bought the farm in 1997. None of the grassland had been ploughed for a considerable period, but it had been regularly fertilised as part of conventional agricultural practices. The grasses present on the fields included perennial rye grass, Yorkshire fog (*Holcus lanatus*), creeping bent (*Agrostis stolonifera*), sweet vernal grass (*Anthoxanthum odoratum*) and crested dogs-tail (*Cynosurus cristatus*). There were very few wildflowers in the agricultural grassland: lesser trefoil (*Trifolium dubium*) and white clover (*T. Repens*), which are often sown with grass mixtures for agricultural fields.







From 1997 onwards no fertiliser has been spread on the grassland and the fields have been managed with a hay-cut in late July/August followed by aftermath cattle grazing. Over the winter, the gates between the fields are left open and the cattle are free to move throughout the pasture, grazing the entire site. This practice has led to the movement of flower seed between fields. In particular, seed from the species-rich fields has been transported by livestock to the poorer semi-improved fields. Species that now appear across the site include black knapweed (*Centaurea nigra*), birds-foot-trefoil (*Lotus corniculatus*), and common mouse-ear (*Cerastium fontanum*). Further evidence of species spread is present in one of the fields that was only half semi-improved as cowslips (*Primula veris*) and pepper saxifrage (*Silene acaulis*) are creeping out into the rest of the meadow.

Yellow rattle has also appeared. It was not found during the surveys and seeds may have been transported on the livestock which are used to graze a nearby common during the spring and summer months.



A recent survey of the older wildflower meadows in the autumn identified several types of grassland fungi, including meadow waxcap (*Hygrocybe pratensis*), parrot waxcap (*H. psittacina*), snowy waxcap (*H. virginea*), scarlet waxcap (*H. coccinea*) and meadow coral (*Clavulinopsis corniculata*). The presence of waxcaps, particularly scarlet waxcap, is an indicator that no fertiliser has been spread in these areas of the farm, as the fungi are intolerant of fertile soils. The hay-making regime with aftermath grazing allows the waxcap mushrooms and other fruiting bodies to appear above the height of the grass sward in autumn to shed their spores.

One of the agriculturally improved fields was enhanced using green hay taken from the older hay meadows at Joan's Hill Farm. The wildflowers present in this field do not differ from other parts of the site that have been allowed to regenerate naturally from seed transported by livestock. However, the green hay may have enabled wildflowers to establish in a shorter period compared with the naturally regenerated fields.

All of the hay meadows are now a spectacular sight in summer and the livestock are still helping seeds to be moved around the farm and wildflowers to establish.

#### Further information:

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