Podzols with an ironpan
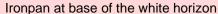
In our uplands and moorlands, podzols with an organic topsoil and ironpan (Bfe horizon) are widespread and are increasingly likely to be the subject of catchment management programmes, including tree planting, enrichment of biodiversity and landscaping around wind turbines. In places the ironpan can obstruct rooting and drainage and may need to be ruptured, particularly for tree planting. Traditionally, for forestry, this was done by deep ploughing to invert the soil profile and create furrows to discharge water. This practice is undesirable as it increases catchment run-off and damages the integrity of the organic topsoil, releasing carbon. Where an ironpan needs to be ruptured, subsoiling with close-set tines, rather than deep ploughing, is preferable. However, some ironpans are discontinuous and do not impede rooting and drainage, so it is essential that a detailed soil survey, with profile observation pits is made, as part of planning site works, so that no unnecessary, and potentially damaging cultivations are carried out. These moorlands are often rich in the remains of human occupation from the Bronze Age and earlier and so an archaeological survey should be carried out before the soils are disturbed.

Ironpan at base of the white horizon

Deep ploughing of ironpan podzols for forestry

On the National Soil Map of England and Wales, podzols with ironpans are dominant or common in the following associations:

651 – Ironpan stagnopodzols - a) Belmont, b) Hexworthy, c) Earle

652 – Humus-ironpan stagnopodzols - Maw

654 – Ferric stagnopodzols – a) Hafren, b) Lydcott, c) Gelligaer.

Individual Soil Series affected by this Soil Alert:

6.51 Adderstone	6.51 Hexworthy	6.52 Daletown
6.51 Belmont	6.51 Hiraethog	6.52 Hartridge
6.51 Burcombe	6.51 Lonsdale	6.52 Maw
6.51 Cray	6.51 Priddy	6.52 Simonside
6.51 Earle	6.52 Budleigh	6.52 Trink
6.51 Ebberston	6.52 Callaly	
6.51 Hambleton	6.52 Cartington	

Soil Alert

4 - ironpan podzols