

8. VEGETATION SUCCESSION: MOORLANDS

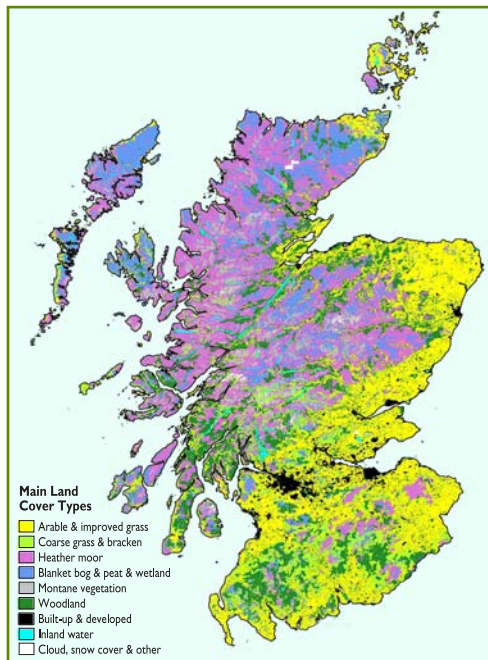
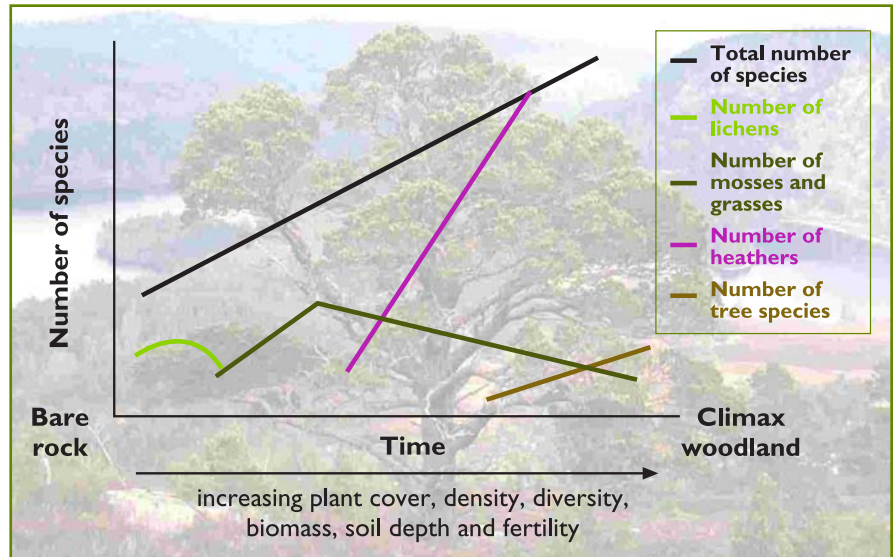
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PLANT SUCCESSION

Beginning with frost shattered rock, a **pioneer** community, often algae and lichen, start to form. As these plants spread they form a crust and absorb water and quarry minerals from the rock. As plants die, small amounts of organic matter build up. Grasses and mosses take advantage of the new **niches** created by the pioneer plants.

A sequence of plant communities inhabiting a site through time is called a **plant succession** or a **sere**. There are several stages on a site as it changes through time from the pioneer stage through a building stage to a mature climatic **climax** stage. At the **climax** stage the vegetation is relatively stable. **Climax** communities such as Scots pinewoods are in a state of **equilibrium** with the climate and soils of their environment.



They are self sustaining ecosystems with inputs of energy and nutrients balanced by outputs of energy and nutrients.






There can be arresting factors such as burning which prevents a climatic **climax** stage being reached. When a plant community, e.g. moorland, is prevented from fully developing through mans' actions it is described as a **plagioclimax**.

THE CALEDONIAN FOREST

After the last glaciation most of Scotland was covered with woodland. Oak was mainly in the south, Scots pine in the east and birch in the north. Now the areas of woodland are small and scattered (see map). Some remnants of the original post glaciation forest still exist largely due to inaccessibility and protection from deforestation, grazing and burning.

Many of these remnant areas are now protected by conservation legislation and include a mixture of Scots pine, birch and oak with juniper and rowans providing the shrub layer, with heather, blaeberry, ferns, grasses and flowering herbs in the field layer.

Conservation and regeneration measures have been put in place to help encourage development of such forest ecosystems, e.g. deer fencing, deer culling, and tree planting. This is in an attempt to increase the currently small area (~3% of land surface in Scotland) covered with the natural **climax** vegetation.

Bare Rock	Lichens	Mosses & grasses	Heather	Scots pine & birch
Inorganic stage	Seral stage 1	Seral stage 2	Seral stage 3 (plagioclimax)	Climatic climax
				
No plant species	Pioneer species	Early colonisers	Late Colonisers	