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### 3.4.6 Coal Measures (Scotland) Group rocks

The Coal Measures Group (Scotland) is sub-divided into three formations; Upper, Middle and Lower. Only the Lower Coal Measures and, to a minor extent, the Middle Coal Measures are represented in West Lothian. The Group comprises sandstones, siltstones and mudstones with coal and seatearth. Outcrops of Coal Measures (Scotland) Group rocks comprise approximately 5,029 hectares, or 11.7% of the surface area of West Lothian. They crop out in the westernmost part of the district from Westfield in the north to Fauldhouse in the south (Figure 109).

The Coal Measures were deposited in a warm and humid climate and palaeomagnetic evidence indicates that, at that time, the area lay in equatorial latitudes. The strata are believed to have been deposited in delta-plain and alluvial-plain environments with drainage generally from a large continental area to the north. The sediments accumulated under conditions of continuous but non-uniform subsidence modified by eustatic (ice age driven) changes in sea level. Periodic brief incursions by the sea left important marine horizons which are the basis of the subdivision of the succession. A wide range of alluvial and lacustrine environments of deposition is represented. These include tropical wetland forested mires and soils (coal and seatearth), floodplain (planty or rooted siltstone and mudstone), river and delta distributary channel (thick sandstones), prograding deltas (upward-coarsening sequences) and shallow lakes (mudstones with non-marine faunas). Marine bands are rare but provide important stratigraphical markers.

The Lower and Middle Coal Measures comprise sandstone, siltstone and mudstone in repeated cycles commonly 8-12 m thick which most commonly coarsen upwards, but also fine upwards, with seatearth and coal at the top. The mudstone and siltstone are usually grey to black, while the sandstone is fine- to medium-grained and off-white to grey in colour. Coal seams are common and many exceed 0.3 m in thickness amounting cumulatively to 5%–8% of the total succession.

There are more than 11 seams that have been mined in the Lower Coal Measures. The main seams formerly mined are the Colinburn, Armadale Main, Armadale Ball, Mill, Shotts Gas, Lower Drumgray, Mid Drumgray, Upper Drumgray, Kiltongue, Ladygrange and Airdrie Virtuewell coals. Middle Coal Measures are restricted to a small area west of Fauldhouse where the Airdrie Blackband Coal may have been mined. These seams have been exploited recently in opencast sites. The Lower Coal Measures are over 150 m thick.

#### 3.4.6.1 Soils, habitats and land use

Coal Measures Group rocks are almost entirely covered by glacial till, though some of this has been subsequently stripped off in open-cast mined areas. In other areas the till is covered by colliery tips and by peat deposits, particularly in the south and west. The resulting soils are of variable with drainage status varying from imperfect to very poor, with non-calcareous gleys, peaty-gleys, deep peat and brown forest soils with gleying predominating (Figure 6). The topography is almost entirely lowland plateaux. Plantation forestry, ley grassland, rough grazing and urban (Armadale and Fauldhouse) are the main land uses, with forestry predominating south of the A71.

#### 3.4.6.2 Biodiversity

Conservation biodiversity interest is concentrated in (Figure 12): Blawhorn Moss National Nature Reserve [NS 885 682]; Blawhorn Moss biological SSSI and SPA [NS 886 683]; 11 Raised Bog and two Intermediate Bog Inventory sites.

There are four Listed Wildlife Sites (Figure 12): Barbauchlaw Burn, River Almond [NS 906 641]–[NS 934 655]; Half Loaf Pond [NS 960 668]; Fauldhouse Ponds [NS 921 606], [NS 924 611], [NS 928 610], [NS 920 617], [NS 934 617] and Wildlife Sites at: Barbauchlaw Burn [NS 923 686]; Colinshiel Wood [NS 950 690]; Drumbeg Moss [NS 870 683]; Easter Redburn Moss [NS 888 675]; Raizehill Moss [NS 878 663]; Mosshouse Farm Moss [NS 882 669]; Westcraigs Moss [NS 898 683].

There are also around 15 areas of Ancient Woodland and four areas of Semi-Natural Woodland (Figure 12).

### 3.4.6.3 West Lothian Geodiversity Sites

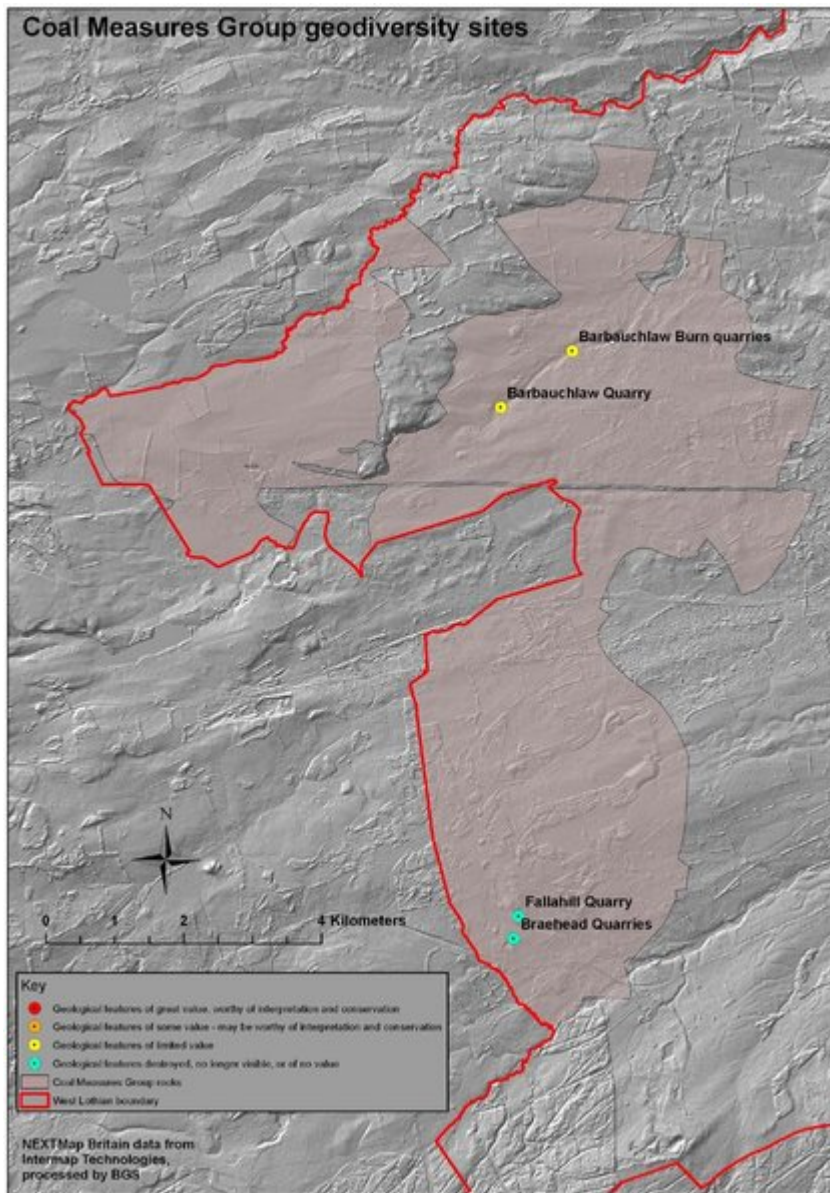
No geodiversity sites of significant value were found in the Coal Measures Group. Most of the sites mentioned in the earlier literature are quarries or mines that have since been infilled or are no longer accessible. BGS would welcome any development or extraction activities that exposed and allowed the preservation of representative Coal Measures sections.

#### Braehead Quarries [NS 9205 6055] (Figure 110)

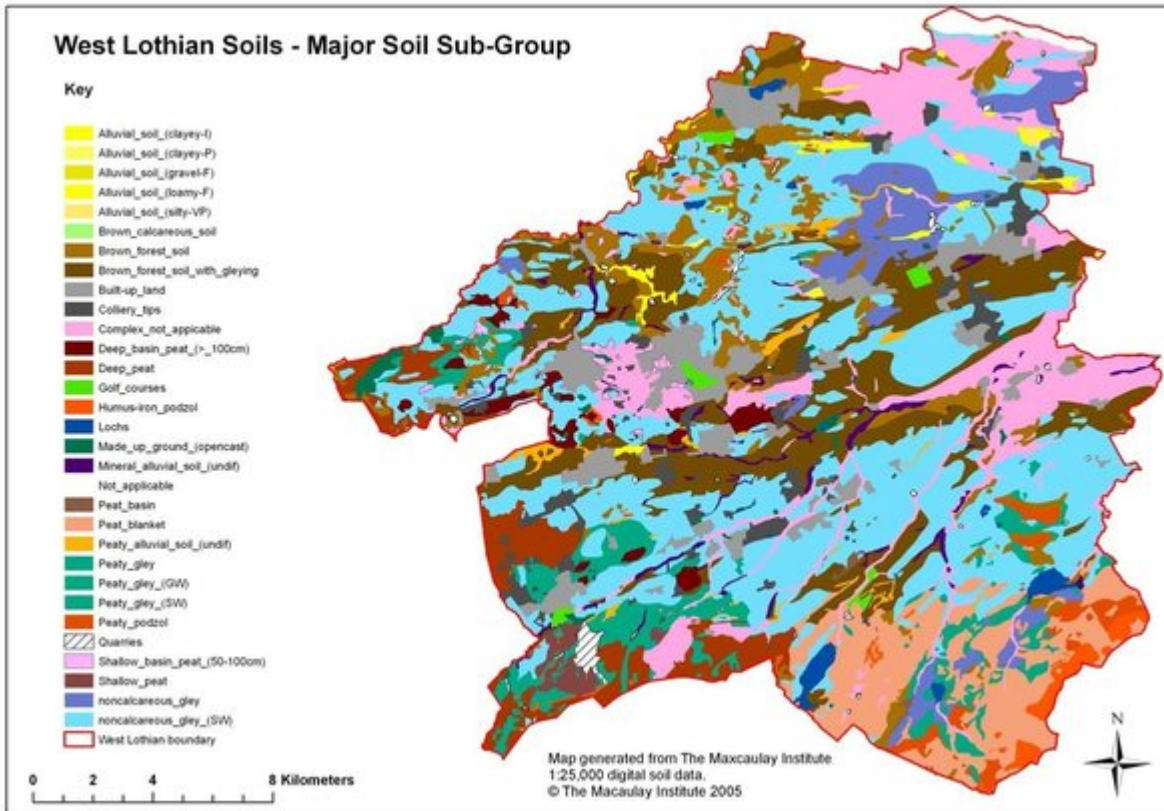
Braehead Quarry [NS 9205 6055] west of Fauldhouse was a former building stone quarry working Lower Coal Measures sandstone. The quarry, closed in 1939 and is now filled in and partially landscaped. No rock sections are currently exposed. Stone from the quarry was used to build Edinburgh villas in Mayfield Road, Esslemont Road, Ross Road, Grange Loan, Midmar Drive and Comiston Drive. Note this locality is not a WLGS.

(Figure 110) Braehead Quarry [NS 9205 6055] west of Fauldhouse, an infilled and landscaped former building stone quarry.

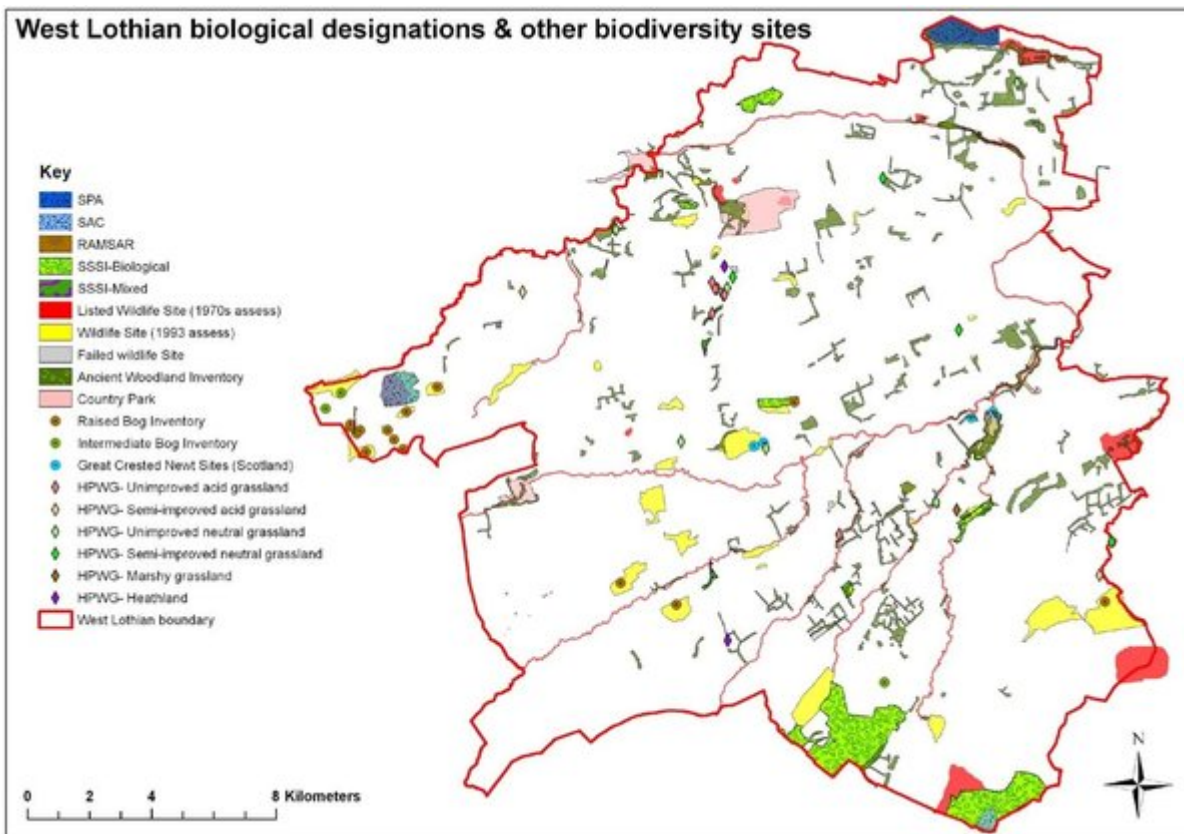
#### [33 Barbauchlaw Quarries and 34 Barbauchlaw Burn Quarries](#)



(Figure 109) Coal Measures (Scotland) Group geodiversity sites of West Lothian.



(Figure 6) Major Soil Sub-Groups of West Lothian. © The Macaulay Institute 2005.



(Figure 12) Biological designations and other biodiversity sites of West Lothian.



*(Figure 110) Braehead Quarry [NS 9205 6055] west of Fauldhouse, an infilled and landscaped former building stone quarry.*