
East Dunbartonshire Geodiversity Audit

Volume 1 - Site Assessments and Maps

Geology and Landscape Scotland Programme

Open Report OR/09.019

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(Cover photograph) Central image: View south-east towards Bishopbriggs from an escarpment of Craigmaddie Muir Sandstone close to the Auld Wives' Lifts. Above image: Mineral growth and striations on a fault plane, Blairskaith Quarry. Lower image: Glaciofluvial cobbles and pebbles of various lithologies, Inchbelle Quarry. Right image: Fossils from the Lower Limestone Formation at Blairskaith Quarry. Left image: Columnar jointing in a basaltic volcanic plug at Craigangawn Quarry.

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S L B Arkley, M A E Browne, L J Albornoz-Parra, and H F Barron

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Foreword

Constant development pressure on Scotland's land and resources demands a greater awareness and understanding of the dynamics of our natural world in order to deliver a sustainable environment for the future, particularly with climate change now a reality. Geodiversity is an important environmental asset but is one of the least recognised and appreciated. It links people, places, rocks, soils, landforms, landscape and ecosystems, and the past through the present to the future.

In East Dunbartonshire, nationally and internationally important geological sites have been assessed and are protected by statutory measures, but these form only a limited part of the area's geodiversity. East Dunbartonshire Council is dedicated to furthering the cause of geodiversity by protecting geological, geomorphological and landscape features. To this end, the British Geological Survey (BGS) were commissioned to audit and assess East Dunbartonshire's geodiversity. This report produced by BGS is a systematic inventory and evaluation of the area's potential Local Geodiversity Sites and provides a foundation for developing a Local Geodiversity Action Plan for East Dunbartonshire.

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The field work could not have taken place without the co-operation of a large number of property and landowners; their permission is gratefully acknowledged. The authors would particularly like to thank Stephen Cowan and Stuart Rae from Tarmac Ltd, Peter Brownly from Douglas Muir Quarry and Patrick Hendry from Inchbelle Quarry (both Tarmac Ltd).

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Contents

Foreword

Acknowledgements

Contents

Summary

1 Introduction

1.1 Background

1.2 Aims and Objectives

1.3 Methodology

1.4 Structure of the Report

1.5 What is Geodiversity?

1.6 Why Conserve Geological Features

2 East Dunbartonshire's Geological Heritage

2.1 The influence of geodiversity in the landscape

2.2 Bedrock geology

2.3 Quaternary Geology

2.4 Geological Resources and the Built Heritage

3 Evaluating East Dunbartonshire's Geodiversity

3.1 Audit Site Selection Criteria

3.2 Geodiversity Auditing

3.3 Project GIS

3.4 BGS Geodiversity Database — Introduction

3.5 BGS GeoDiversitY Database — Assessment of Site Value

4 Site Assessments

5 East Dunbartonshire's Geodiversity Site Results

Glossary

References

Figures

Summary

This report describes a geodiversity audit of East Dunbartonshire commissioned by East Dunbartonshire Council (EDC), funded by Scottish Natural Heritage (SNH) and EDC, and carried out by the British Geological Survey (BGS).

The audit began with a review of the available geodiversity documentation for East Dunbartonshire including BGS field maps, databases, digital aerial photography and publications, SNH SSSI and GCR documentation, and site information from the Strathclyde RIGS Group. An initial list of 59 sites with potential for geodiversity value was compiled from this information.

A total of 36 sites from the initial list were visited and audited, most during March and April 2009. Information was recorded on the GeoDiversitY scoring system, developed by BGS. In this system, geological scientific merit, education value, community site value, cultural/heritage/economic importance, access, site fragility, potential are assessed. The GeoDiversitY system was accessed via digital data entry forms on the BGS SIGMA Mobile system running on a ruggedized field notebook PC.

Of the 36 sites visited, 34 are recommended as Local Geodiversity Sites. These sites have a good geographical spread across East Dunbartonshire, encompassing both urban and rural areas. Together they show typical geological strata, structure and features of all the geological units present immediately beneath the surface of East Dunbartonshire and are representative examples of the Carboniferous sequence which underlies much of Central Scotland.

The sites, chosen primarily for their geology, have revealed numerous links to the character of the landscape, historical structures, ecology, and the economic and cultural history of the area.

Many of these sites could be enhanced to encourage visitors and students to learn more about the geology beneath their feet and how the geology, as the foundation of our landscape, has influenced the form and nature of what lies at the surface; from the inter-drumlin depressions which have created a wetland habitat to the ironstones and fireclays which were exploited as raw materials for the heavy industry which flourished around Glasgow, resulting in the development of large conurbations.

This report will assist in future planning, development and conservation issues within East Dunbartonshire and form the basis of a Local Geodiversity Action Plan (LGAP).

[Bibliography](#)



East Dunbartonshire Geodiversity Audit

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Open Report OR/09.019



(Front cover v1) Front cover. Volume 1

East Dunbartonshire Geodiversity Audit

Volume 2 - Appendices

Geology and Landscape Scotland Programme
Open Report OR/09.019



(Front cover v2) Front cover. Volume 2



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