

GLA 7 Crystal Palace Geological Illustrations, RIGS

London Borough of Bromley, TQ 345 705; What3Words: circle.rop.e.intend
Ownership: Crystal Palace Park Trust. Public open space.

The Crystal Palace Geological illustrations are located at the southern part of Crystal Palace Park. They were the first 'geological theme park' recreating the strata and creatures from the geological past. The park was landscaped by Joseph Paxton (1803-1865) and this included models of geological outcrops created by Professor David Anstead (1814-1880). The Park opened in 1854 as a commercial, public attraction. The animals and stratigraphical models are located around the western side of the lake, with the animals placed in naturalistic settings and surrounded by plants representing the appropriate geological time periods. These include monkey puzzle trees (*Araucaria* sp.), swamp cypress (*Taxodium* sp.), tree ferns (*Dicksonia* sp.), horsetails (*Equisetum* sp.), lancewood (*Pseudopanax ferox*) and ginkgos (*Ginkgo biloba*).

The models of Mesozoic reptiles and Cenozoic mammals were designed and sculpted by Benjamin Waterhouse Hawkins (1807-1894) between 1852 and 1854 under advice from Sir Richard Owen (1804-1892). The collection initially included fifteen complete model specimens of dinosaurs and mammals, although more had been planned (including a mammoth) until funding was cut from the project. Over time some of the models have been damaged or lost. In 2023, one of these 'lost models', a *Palaeotherium magnum*, was constructed by artist Bob Nicholls and installed on the Park's 'Tertiary Island'. The models represent the understanding of body plans and functional morphology of these creatures at the time at which they were constructed.



**A view of the Secondary Island with Mesozoic reptiles.
It includes Ichthyosaurs, Plesiosaurs, Teleosaurs and Dinosaurs.**

The Geological Illustrations are divided up into the Primary (Palaeozoic), Secondary (Mesozoic) and Tertiary (Cenozoic) areas. Palaeozoic strata are represented on the 'mainland' by a cliff of crinoidal limestones from the Lower Carboniferous of Derbyshire and a lead mine (once adorned with crystals and stalagmites, but now inaccessible) and then by a sequence through the Upper Carboniferous Millstone Grit and Coal Measures Groups. The Coal Measures also illustrate a set of normal faults forming a horst structure. A bridge crosses the waterfall in front of the Coal Measures and the handrails of this are inscribed with a geological timeline.

The Secondary Island is inaccessible, but can be viewed from the lakeside path. It features 'outcrops' of New Red Sandstone from the Bristol area (Permo-Triassic), Blue Lias (Early Jurassic), Cotswold Limestone (Middle Jurassic), Portland Limestone and a fossil tree from the Purbeck Group (Late Jurassic). Wealden Sandstones and Chalk represent the Cretaceous. Creatures include the Permian *Dicynodon*, Jurassic ichthyosaurs, plesiosaurs and teleosaurs and the dinosaurs *Megalosaurus*, *Hylaeosaurus* and *Iguanodon*. Cretaceous creatures are pterosaurs and a mosasaur.



Representations of prehistoric creatures at Crystal Palace Park.

- A. the Giant Ground Sloth *Megatherium*.
- B. The Giant Deer *Megaloceras*;
- C; *Palaeotherium magnum* emerges from the woodlands;
- D. A Mosasaur lurks in the shallows;
- E. Two Iguanodons and
- F. a pair of Labyrinthodonts clamber onto land

(photos: Ruth Siddall).

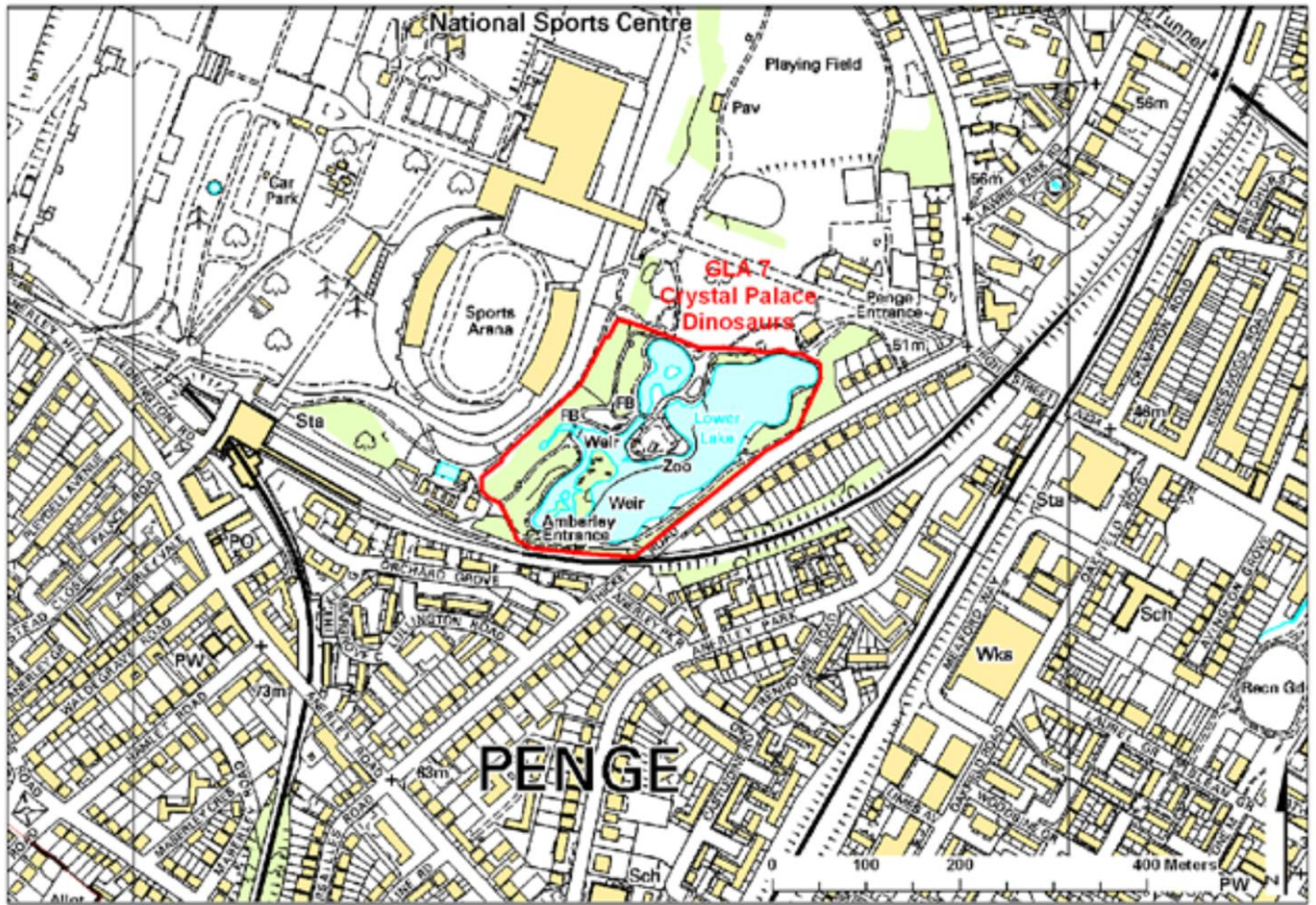
The Tertiary Island features models of several species of *Palaeotherium* and *Anoplotherium*; these animals representing the relatively recent discoveries of Eocene mammals in the Paris Basin by Georges Cuvier (1769-1832). The giant ground sloth *Megatherium* and the Irish elk, *Megaloceras*, standing on an 'outcrop' of glacial gravels represent the Quaternary.



Illustrations of the strata of the British Isles at Crystal Palace Park.

- A. A late Jurassic fossil tree trunk, *Protocupressinoxylon purbeckensis*, on the Secondary Island;
- B. Ice Age fluvio-glacial gravels beneath the *Megaloceras* sculptures;
- C. The faulted Coal Measures overlying the Millstone Grit (upper Carboniferous);
- D. Cliffs of Jurassic Inferior Oolite Group limestones on the Secondary Island;
- E. The Lower Carboniferous 'Mountain Limestone' of Derbyshire and the entrance to a lead mine and
- F. Detail of the Carboniferous limestone which is a crinoidal rudstone
(photos: Ruth Siddall).

In 2025-2026, the prehistoric creatures, geological illustrations and their surrounding landscape underwent a major phase of restoration and conservatio, restoring the original colour scheme and planting.



Site Map

Source: London's Foundation, p. 134.

OS Topography ©Crown Copyright

Further Information and Bibliography

[The Friends of Crystal Palace Dinosaurs](#)

The [Beyond the Dinosaurs](#) project was supported by King's College London and the Friends of Crystal Palace Dinosaurs and has produced three trail guides which can be downloaded below.

- [The Mammal Sculptures of Crystal Palace Park](#)
- [The Geological Illustrations at Crystal Palace Park](#)
- [Palaeoplanting at Crystal Palace Park](#)

[Historic England: Prehistoric Animal Sculptures, Geological Formations and Lead Mine on Islands and on Land Facing the Lower Lake.](#)

Donovan, S. K., 2018, Urban geology: modelling Coal Measures strata in the nineteenth and twenty-first centuries., *Geology Today*, 34 (1), 26-30.

Doyle, P., 2024, The Victorian Geological Illustrations of Crystal Palace Park, London: cycles of conservation and neglect, 1993–2023., *Geology Today*, 40 (2), 52-57.

Doyle, P. & Robinson, E. 1993. The Victorian 'Geological Illustrations' of Crystal Palace Park. *Proceedings of the Geologists' Association*, v.104, pp.181–194.

Doyle, P., 2023, The 'Geological Illustrations' of Crystal Palace Park., in: Clements, D., *The Geology of London (Second Edition)*., Geologists' Association Guide no. 68., Geologists' Association, London., 111-126.

Witton, M. & Michel, E. 2022. *The Art and Science of the Crystal Palace Dinosaurs*., Crowood Press, Marlborough., 192 pp.