

**COUNTY:** OXFORDSHIRE

**SITE NAME:** DRY SANDFORD PIT

**Status:** Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

**Local Planning Authorities:** Vale of White Horse District Council

**National Grid Reference:** SU467995

**Ordnance Survey Sheet 1:50,000:** 164 (Oxford)      **1:10,000:** SU49 NE

**Date Notified (Under 1949 Act):** 1950      **Date of Last Revision:** 1970

**Date Notified (Under 1981 Act):** 1986      **Date of Last Revision:**

**Area:** 4 ha 10 ac

### **Description and Reasons for Notification**

#### **Geological**

Dry Sandford Pit exposes part of a sequence of limestone rocks known as the Corallian Beds, laid down during the Middle Oxfordian Stage of the Jurassic, some 140 million years ago, in shallow coastal waters close to coral reefs. The layered rock succession seen here includes parts of three main units of the Corallian the Lower Calcareous Grit Formation; the Lower *Trigonia* Bed of the Highworth Grit Formation; and the Third *Trigonia* Bed, Urchin Marl and Coral Rag of the Osmington Oolite Formation. The upper units of the Highworth Grit Formation (the upper *Trigonia* Bed, Pusey Flags and Highworth Grit and Clay) are missing from the succession seen here, indicating that a major period of erosion took place in this area during the deposition of the Oxfordshire Corallian Beds. With the exception of the Urchin Marl and the Coral Rag, these beds contain a rich and important fauna of fossil ammonites.

The middle Oxfordian Stage is sub-divided into two time zones, each defined by the occurrence of a diagnostic species of ammonite one zone is characterised by *Cardioceras densiplicatum* and the other zone by *Cardioceras tenuiserratum*; both zones are represented at Dry Sandford Pit. As such, the site is invaluable as a middle Oxfordian reference section against which other Corallian sections, both locally and nationally, can be compared.

#### **Biological**

Dry Sandford Pit is an abandoned sand quarry which has developed a valuable mosaic of calcareous vegetation including fen, grassland, scrub and lichen-rich heath. A series of spring-fed shallow pools with clear, calcareous water overlie hard calcareous rock on the quarry floor and support an interesting flora and fauna which may be analogous with that of small marl lakes. Associated with the pools and their inflow and exit streams is a rich calcareous fen which differs from the neighbouring fen at Cothill in some aspects of its vegetation, particularly the bryophyte flora. Such fens are rare and confined to the Corallian beds of Oxfordshire. That at Dry Sandford is particularly noted for its fine displays of orchids, among them an abundance of marsh helleborine *Epipactis palustris* as well as one of the few southern localities for variegated horsetail *Equisetum variegatum*. The drier, sandy soils support grassland and heath and support many of the local annual species for which the Frilford area is noted such as shepherd's cress *Teesdalia nudicaulis*, smooth cat's-ear *Hypochaeris glabra* and dense silky bent-grass *Apera interrupta*. The heaths are of interest for bryophytes and lichens.

The entomological value of Dry Sandford Pit is of national importance, particularly for aculeate Hymenoptera (bees and wasps) which nest in the dry cliff, talus slope and open sandy soils. Among the 129 species recorded here between 1943 and the present are five nationally rare solitary bees and wasps including *Andrena hattorfiana*, *Psen bicolor* and *Nomada armata*, together with the very local *Dasypoda altercator*, a species normally confined to coastal duneland. Nationally rare Diptera (true flies) have also been found here including the only recent record of *Stratiomys chamaeleon*. Three local, but conspicuous, insects which have large populations here are the marbled white butterfly *Melanargia galathea*, the scarlet tiger moth *Callimorpha dominula* and the great green bush-cricket *Tettigonia viridissima*.