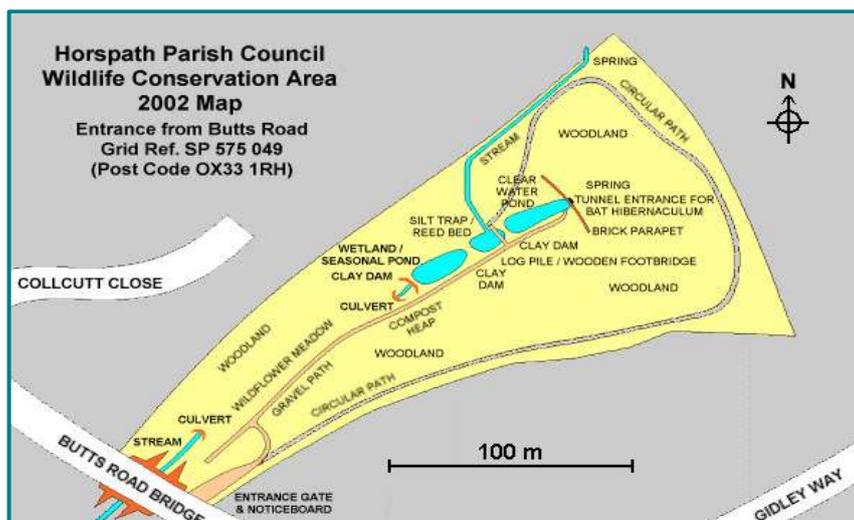


SETTLEMENTS AND BUILDINGS



Horspath Parish Council Wildlife Conservation Area



Horspath Local Wildlife Site is established in the disused railway cutting accessible from Butts Road, Horspath. Originally created by digging out and deepening a pre-existing valley in the early 1860s, the 450 metres long tunnel was constructed by a large travelling labour force over a period of about 3 years. In 1969 Oxfordshire County Council bought the 5-acre site and the tunnel which was subsequently purchased in 1982 by Horspath Parish Council. In 2000 the Parish Council decided to convert the

cutting into a local nature reserve for the village as a Millennium community project, and to secure the tunnel for use as a bat hibernaculum.

The first phase of this project included the creation of paths, three clay dams to separate a variety of wetland habitats — a frog breeding pond, a reed bed and silt trap, and a seasonal bog - and a log pile footbridge. The footbridge created a secure habitat for amphibians as well as providing good pedestrian access across the wetlands. In 2002 grants totalling £25,000 were spent on the major engineering work to convert the 450 metres long railway tunnel into a bat hibernaculum, which is now a safe and secure for both bats and volunteers to visit. Subsequently more external bat boxes, tit nesting boxes, frog protection cages and underground frog refuges have been installed.

The site was designated an “Oxfordshire Jubilee Wildlife Space” in 2003, and in the same year was selected by the judges of the Best Kept Village Competition as the “Best Nature Conservation Area in Oxfordshire”. Since then local volunteers have devised a sustainable annual maintenance programme to further enhance the wildlife habitats on the site. With improved paths to all parts of the site, there is no reason now for visitors to disturb the more sensitive wildlife habitats, and the wildlife is now better protected.

This site’s national importance is for providing a vast underground temperature and humidity controlled environment for the hibernation of at least 4 species of bats - Daubenton’s *Myotis daubentonii*, natterer’s *Myotis nattereri*, barbastelle *Barbastella barbastellus*, and brown long eared *Plecotus auritus*. Special bricks with holes to accommodate bats have been set into the wall at different heights, and many thick wooden boards have been fixed attached with enough room for bats to crawl behind them. This offers roosting space sufficient to accommodate well in excess of 1,000 bats if necessary.

The bats start using the tunnel in late autumn as their natural food supply of moths and flies reduces with the first frosts. Temperatures are measured at 600 places inside the tunnel using passive infra-red thermometry on the three occasions when the bats are monitored between November to March. Airflow is measured and controlled through the tunnel, and a 40 metres long lake is maintained inside the tunnel at the Horspath end to raise the relative humidity to about 90%: high humidity is critical for hibernating bats. The engineering modifications to the tunnel involved inserting robust vertical box section steel reinforcements within double layer concrete block walls at each end of the tunnel and installing lockable steel grill access doors. An external ladder is needed to enter the tunnel at the Horspath end, and a steel platform for instrumentation is installed just inside this high-level entrance, with a secure steel ladder fixed inside to descend from this onto a secure board walk alongside the lake. The 3 metres higher elevation of the Littleworth end over the Horspath end ensures that any cold air sinks down towards this sump, while any warm air tends to move along just under the ceiling in the tunnel, thereby producing a great spectrum of temperature zones suitable for the different species of hibernating bats. This range is maintained in both warm and cold winters.

For more information see <http://www.horspath.org.uk/common/hwlca.htm>