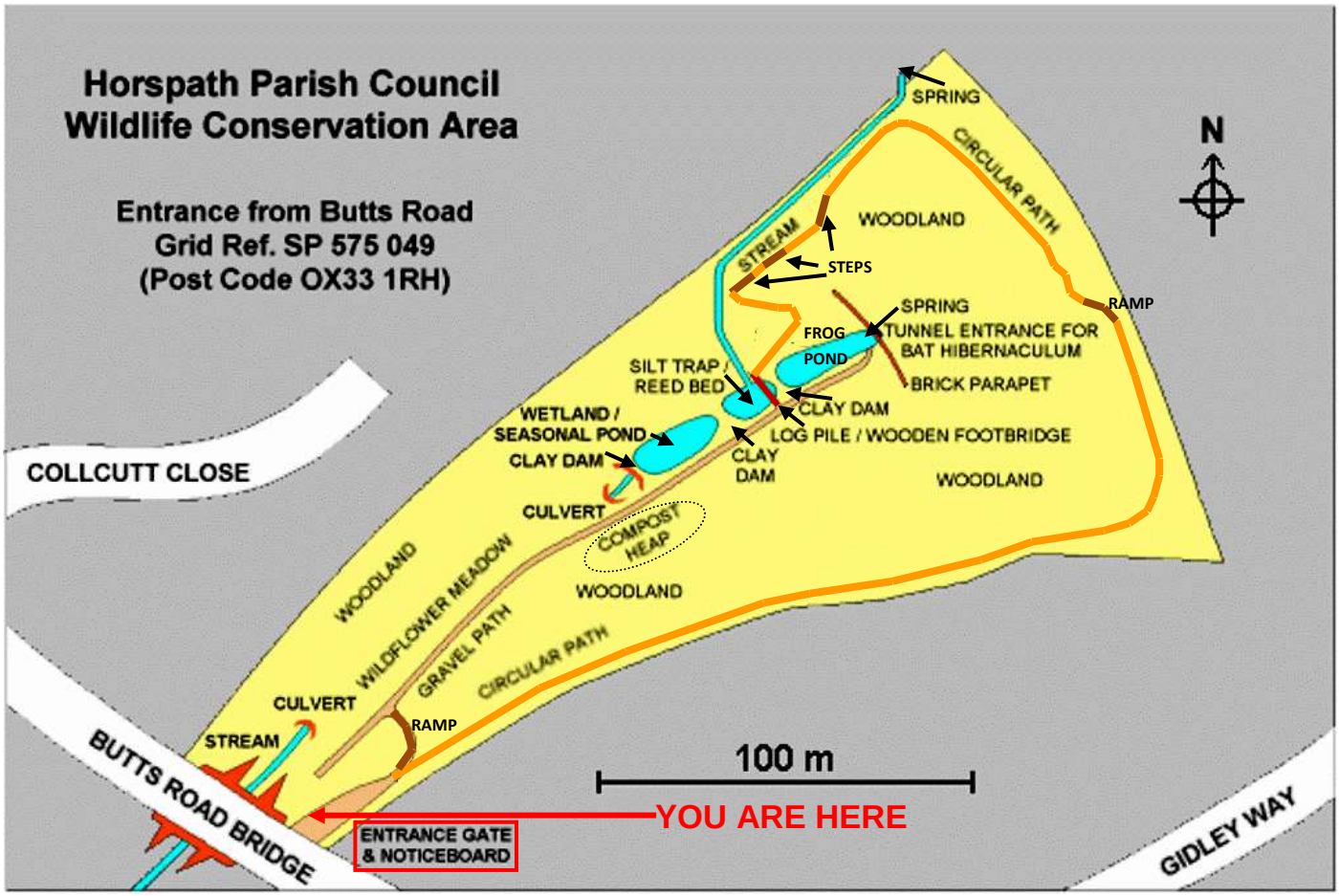
Horspath Parish Council Wildlife Conservation Area

Important Information for Visitors

This is a designated Local Wildlife Site maintained by volunteers for the residents of Horspath. Visitors are welcome, but they are asked not to interfere in any way with the wildlife and to keep to the paths. The steep slopes off the paths are slippery and hazardous, and the sticky mud is very deep in the ponds. Visitors are responsible for their own safety and must have regard for the safety of others. This is not a playground, and so children must be supervised by a parent or a responsible adult approved by a parent. Dog owners are obliged by law, in the interests of public health, to pick up any dog mess and put it in the waste bin outside the gate, and they are responsible for keeping their dogs under control. Dogs must not be allowed into the ponds or woodland where animals and ground-nesting birds protected by law will be disturbed. Offenders will be reported and prosecuted by SODC. Please do not use bikes, tip rubbish or drop litter in here. The map below indicates the location of 3 flights of steps and 2 ramps which are steeper than 10°, which should be within the scope of normally fit people to negotiate, provided that they wear footwear with a good grip on the ground, and exercise appropriate caution in adverse weather conditions. There is only one entrance/exit, with no special access for people with disabilities.



Reporting Emergencies by Telephone

Anyone needing emergency assistance should telephone 999. Criminal activity, other than in an emergency, can be reported to the Police by telephoning 101, or anonymously to Crimestoppers on 0800 555 111. For any emergencies with animals or wildlife, please phone 01235 821 536 for the RSPCA in Abingdon, and 01844 292 292 for St Tiggywinkle's Wildlife Hospital in Haddenham, or phone the Police.

A Short History of the Site

This railway cutting was created by digging out and deepening a pre-existing valley in the early 1860s when the Wycombe Railway Company extended the line from Thame to Oxford. The 450 metres long tunnel was constructed by a large travelling labour force in about 3 years, and passenger trains ran through it from Oxford to Marylebone station in London, via Princes Risborough, from 1864 to 1963. After the rail track was taken up in 1969, Oxfordshire County Council bought the site and the tunnel, and in 1982 Horspath Parish Council bought this 5 acres site from the County Council for £700. Apart from some intermittent attempts to stem the fast growth of vegetation, the Parish Council tended to neglect the site until 1999. In that year a major illegal rave was held in the tunnel on one midwinter's night, and in the course of the clean-up operation afterwards, the Parish Council discovered evidence that the site had been used extensively for drug-related criminal activity over many years, and in the interests of public safety, it decided to convert the cutting into a local nature reserve as a Millennium community project for the village in 2000.

The first phase of this project – felling a large number of 30-year-old trees and bulldozing flat what is now a clay wildflower meadow, was followed by a year of work with excavators and dumper trucks to sculpt the paths and lay a solid base for all of them. In 2001-2 rented excavators were used to build up the three clay dams to produce a variety of wetland habitats – a frog breeding pond, a reed bed and silt trap, and a seasonal bog, and a log pile footbridge was constructed, partly as a secure habitat for amphibians, and partly to provide good pedestrian access across these wetlands. In 2002 grants totalling £25,000 were spent on the major engineering work to convert the 450-metres-long railway tunnel into a safe and secure bat hibernaculum for both bats and volunteers to visit. Many bat bricks, bat boards, and boxes, tit nesting boxes, frog protection cages and underground frog refuges have since 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". In subsequent years our local volunteers have devised a sustainable low-maintenance programme to further enhance the wildlife habitats on the site, and by improving the 'circular path' with the introduction of wooden steps and a gravel surface, have made the whole site accessible for most people in most seasons. With established paths to all parts of the site, there is no reason for visitors to invade the more sensitive wildlife habitats, and the wildlife is better protected. The history of this project is at www.shotover.clara.net/horspath/index.htm with any news at https://horspathparishcouncil.org/ along with Parish Council contact details for volunteers wishing to help. In 2010 the site was designated by Berkshire Buckinghamshire and Oxfordshire Wildlife Trust as a Local Wildlife Site, and as well as attracting many more Horspath residents to enjoy it, it is also now used as a resource by local school teachers and environmental scientists to monitor wildlife as the climate changes fast in the 21st century.

Some of the Special Features of this Wildlife Conservation Area

The rock underlying most of the lower part of this site is Kimmeridge Clay, which was originally deposited as very fine sediment in a shallow sea about 140 million years ago. This clay is normally plastic and sticky when moist, and it acts as an impervious layer which sustains the pond and wetlands here. In wet seasons the surface of the clay is slipping down the steep, artificially constructed 25° slopes of the cutting at roughly 5 cms per year, so many of the trees, notably ash seedlings, are deformed into an S-shape. However, in a severe drought it can lose as much as 30% of its volume, such that deep open cracks develop on the surface, and an underground drainage system then develops several metres down, and even the ponds dry out. The sources of water for each of the wetlands are kept separate, keeping the purest water filtered by coming through the old railway track bed in the tunnel, for the frog breeding pond, where fresh water shrimps (*gammarus pulex*) are abundant, and diverting into the reed bed the nitrate- and silt-laden rainwater coming down off the farmland on the Whitchurch and Shotover Sands higher up above the cutting. However, to avoid the extremes of any flood, the flow of water through the tunnel and the wetlands is controlled by overflow channels built into all three clay dams. The pond has proved to be ideal for frog breeding, with as many as 600 frogs in the pond at one time of spawning in early March, and the wire cages and underground and underwater frog refuges were installed to protect these frogs from becoming breakfast food for the local herons. Water emerging from the tunnel in winter is quite warm at around +6° Celsius, so this pond seldom freezes to any depth and more frogs survive severe winter weather here than elsewhere. In dry periods it is also a reliable watering hole for passing badgers, foxes, Roe and Muntjac deer.

The site is also the home to mice, voles, shrews, moles, rats, grey squirrels, hedgehogs, slow worms, grass snakes, many frogs and a few toads, and these frequently attract larger predators like foxes, sparrowhawks, herons, buzzards, red kites, barn owls and tawny owls. The invertebrates in the wetlands and the fruit on the trees constitute a supply of bird food for a wide range of birds using the site, ranging from wrens, tits, robins, grey wagtails, blackbirds and thrushes, to wood pigeons, collared doves, jays, magpies, green and greater spotted woodpeckers.

However this site's national importance is for providing a vast underground temperature-controlled environment in the tunnel for the winter hibernation of at least 4 species of bats - Daubenton's, Natterer's, Barbastelles, and Brown Long Eared bats. Over 120 bat bricks, with 6 holes cast in each for bats, have been set into the wall, and many thick wooden boards have been fixed just off the wall with enough room for bats to crawl behind them. The bats start using the tunnel as their natural food supply of moths and flies dies off with the first frosts in late autumn. The fairly constant temperature in the tunnel of around 8° Celsius ensures that the bats can lower their heart rates and use much less energy during their winter hibernation without any food, and without the risk of freezing to death as they would outside. The actual temperatures at 500 places inside the tunnel are measured using passive infra-red thermometry on the three occasions when the bats are monitored while they are asleep during the months November to March. Airflow is controlled through the tunnel, and a 40-metres-long lake is also maintained inside the tunnel at the Horspath end to raise the relative humidity to about 90%, so that the bats do not dry out while sleeping. This unique and pioneering wildlife conservation project is very successful and is special to Horspath.