

Educational Visitor Guide



Anton Lakes

Local Nature Reserve

Contents

Welcome to Anton Lakes Local Nature Reserve.....	3
Getting to the reserve and parking.....	6
Location.....	7
About this Educational Visitor Guide.....	8
Activity sheets to accompany this guide.....	9
When visiting Anton Lakes Local Nature Reserve.....	10
Health and Safety.....	10
Further learning opportunities.....	11

Welcome to Anton Lakes Local Nature Reserve

About Anton Lakes Local Nature Reserve (LNR)

Anton Lakes LNR is situated just north of Andover town centre and covers an area of approximately 30.5 hectares. Designated as a Site of Importance for Nature Conservation (SINC), the site was also designated as a LNR in 1996. The site supports a variety of plants and animal species including otter, water vole, kingfisher, as well as rarer plants such as long stalked yellow sedge.

The reserve is carefully managed to look after its wildlife through a combination of mowing, grazing and scrub clearance. This maintains a range of habitats, including calcareous grassland for insects such as butterflies and moths, fen meadow for plants such as the southern marsh orchid, lakes and rivers for fish and mammals and scrub for insects and birds.

At Anton Lakes LNR you will find a blend of natural landscape features and the aftermath of industrial activity that has created additional wildlife habitats. The River Anton rises within the reserve and its source and upper part of the valley is now surrounded by modern housing developments. A large area of the valley floor is now occupied by flooded gravel workings, providing a deep water habitat of value to birds and fish, and there is sufficient open space to provide a feeling of the real countryside. A patchwork of meadows and woodland create a mosaic of habitats that can be explored within a compact area.

Local history studies date back to the Bronze Age, when a hoard was discovered near the River Anton in 1913. An old Roman road known as the Portway also crosses the site and its rich agricultural history stems from its development as watercress beds in the 19th century.

Plenty of inspiration can be found for language, literature and arts projects, and maths projects can be independent of the environmental studies or be used to analyse the data that is collected. The role of the reserve within the leisure facilities of the Borough and how the community utilises the facility can be part of the citizenship education.

Local community groups are also encouraged to use the site for educational visits.

History

There are two known links between this site and the ancient history of the area. A Bronze Age hoard was discovered near the River Anton in 1913. This consisted of 36 fragments of bronze swords and spearheads that may have been a store of scrap metal or alternatively a religious offering made near a spring that might have been associated with a deity.

A Roman road, known as the Portway runs between Silchester and Old Sarum, it crosses the site from east to west but its route is mostly within the area of gravel extraction. Just to the east of the site it formed a crossroads with another Roman Road, The Harroway.

As an agricultural landscape, it was particularly favourable for the development of watercress beds in the 19th Century. The construction of the railway in 1854 facilitated the transport of watercress to London. The peak of this activity was reached during the 1920s after which the depression cause a slump in demand. A brief wartime revival was ended by post-war labour shortages and other factors. Commercial production ceased shortly after the Second World War.

Small scale gravel extraction had been taking place at the western end of the site during the 1930's and 1940's. In 1949 planning permission was granted for more extensive extraction to take place at the eastern end of the site. Using a drag-line bucket, the main lakes were excavated during the 1950's and 1960's to meet the demand for constructing roads, houses and industrial areas. A washing and grading plant was sited on the southern shore of the main lake. Gravel extraction ceased by 1973.

As early as 1963, the area was proposed as an Open Space by the Andover Amendment Map and this designation was reinforced by the Andover Local Plan in 1990 where it is recognised as an ecologically important area. In 1996 Anton Lakes was designated as a LNR.

Geology and hydrology

Andover lies within an area of undulating terrain on the Upper Chalk deposit that covers much of northern Hampshire and extends into neighbouring counties. The valley floor has overlying deposits of the valley and river gravels, although within the old watercress beds there is tufa encrusted chalk "gravel".

On most of the site, soils are formed over alluvial deposits. They are neutral to basic, pH 7.5 to 8.0, and poorly drained. The rising ground on the southern side of the site, Coleman's Hill, is drier and the soil is calcareous loam at pH 7.5 to 8.0.

The water that feeds the River Anton and the lakes comes from springs that occur throughout the valley bottom. Beneath the ground, the porous chalk rock allows rainwater to percolate through it and springs occur when the water table coincides with the surface of the ground. The water table is normally higher in winter than in the summer and so springs will occur throughout the valley system. In summer, as the water table falls, only the lower springs are active and so there is no supply of water for the upper reaches during this time and the bed dries out. This is typical of many chalk streams and the upper reaches are known as "winterbournes".

The course of the River Anton begins in the North East of the Reserve, near Enham, and travels southwards towards the lakes. The construction of watercress beds has diverted the flow from the original bed, although a ditch remains on the line of the former stream bed. A borehole was used to bring clean water to the watercress beds directly from the under ground chalk aquifer and this still flows when the water table is high enough.

A side stream arising near Charlton has been greatly modified by the digging of gravel and the construction of roads and housing. It joins the reserve at the western end, discharging into the small lake.

The Anton flows out from the larger lake near its eastern end and the stream passes through the

wet meadowland before leaving the Reserve at the south east boundary. The river flows through Andover town centre and Rooksbury Mill LNR (an area also managed by TVBC) before joining with the River Test below Wherwell.

The water quality is high, providing good conditions for invertebrates and fish. The river carries very little silt although the high calcium carbonate content can lead to deposition in the form of gravel chalk.

Wildlife importance

The rich mosaic of chalk grassland, scrub, and riparian habitats leads to diverse communities of both flora and fauna.

Areas of chalk grassland such as those present on the reserve are of particular value as they provide one of Britain's richest wildlife habitats. The total area of chalk grassland in Britain has historically fluctuated in the response to the demand for arable land, however the last 50 years has seen an unprecedented level of chalk grassland destruction. Chalk grassland on the reserve is therefore of particular value. Providing important protection for different moths and butterflies, including peacock, comma, marbled white and small and holy blue butterflies. Reptiles such as slow worms (legless lizard) can also be found here. The lakes themselves have clear unpolluted waters, which support populations of fish, water birds and invertebrates. Vegetation within the lake is sparse and species diversity is poor, all natural characteristics of spring headed-lakes. The most common plant, Mare's Tail can often be seen growing in the shallows, as well as yellow flag growing on the margins.

Watercress can still be found on the reserve, growing in the disused watercress beds, which now provide habitat for many other species including snipe, water rail the nationally scarce long stalked yellow sedge. The dense cover provides a suitable habitat for water voles.



Yellow Flag Iris (*Iris pseudacorus*)



Southern Marsh Orchid (*Dactylorhiza praetermissa*)

Wet pastureland occurs in the wider part of the valley floor to the north and east of the lakes. These meadows are of exceptional interest for their herb-rich vegetation. Particularly eight ancient meadow indicator species including Southern Marsh Orchid, and the area nearest the spring is of a vegetation type that is very localised in Hampshire and extremely rare nationally.

The site covers the main area of springs that produce the headwaters of the River Anton. Outflow is seasonal and the river is best described as a winterbourne (a stream that has a tendency to dry up in the summer). Trout can

be seen in the lower part of the river, Bullhead, another fish species also present, are small fish but are very important in the South of England holds a significant part of the European population of this fish. Demoiselles, Caddis Fly and Mayfly breed in permanent parts of the river, but their annual life cycle is disrupted upstream when flow ceases in summer.

However, not all of the wildlife on the Reserve belongs there. Some non-native species have set up residence on the Reserve. Many non native species often pose little or no effect on the native species with which they share their home and some can even now be classified as naturalised. However, some species can become invasive and out compete some of our native species. Mimulus for examples, also known as Monkey Flower, was brought to the UK as an ornamental aquatic plant used in garden ponds. However, its escape into many of the South's water ways has varying effects. The strong hold for this plant on the Reserves lies within the old watercress beds. Here this species threatens to out compete the wild watercress and water mint that grows here.

Ongoing management

Anton Lakes LNR is managed for both public access and wildlife. Promoting a high diversity of plants and animals (biodiversity) and ensuring that the right conditions are maintained for any rare or unusual species, whilst maintaining balance against the need to encourage people to make use of the reserve for recreation and education. A major feature of management is zoning where some areas are fenced and others are left open for public access. The work on the reserve is carried out by the Countryside Officers, local volunteers and contractors.

Most of the habitat management tasks are carried out during the winter months when it will cause fewer disturbances to the animal life and less damage to the plants. In winter birds will not be nesting and many of the smaller animals are in their dormant state. Many plants will die

back to ground level or leave seeds to start the new season growth, so this is a good time to be working on the site. Without management, the whole reserve would soon become an area of woodland, heavily shading the lakes and river. This would benefit some species of plant and animal, but a lot of biodiversity would be lost. The habitat maintenance programme will preserve the mosaic of different habitats that exist on the reserve and provide the right conditions for a wide range of plants and animals to flourish. The tasks carried out in winter include orchard pruning, faggoting (the use of hazel bundles to narrow the river and speed up slow, as well as stabilise the river bank), tree felling and tree planting. Major fencing work and path building or repairing would also tend to be done at this time of year.

Grazing is an important part of the maintenance of the grassland habitats. A grazed meadow that is cut once a year for hay creates a far more valuable habitat than one that is kept short by regular mowing. Cattle do not eat off all the plants to the same height, and their footprints and dung offer microhabitats to other animals. In areas that are not grazed due to public access, mowing is used and occasionally dense undergrowth is cut using a tractor mounted flail or a hand held brush cutter.

In order to know if the management of the reserve is successful, it is necessary to carry out regular surveys of the plants and animals. This process is called monitoring. The vegetation is reviewed regularly and butterflies are monitored every year. Dragonflies, birds and freshwater invertebrates are also used as indicators of the reserves status.

The River Anton Enhancement Scheme

The River Anton is one of Andover's most important features. It is a chalk stream fed by water of exceptionally high quality and supports a rich and diverse array of wildlife. As the river flows through town there are many opportunities for the public to enjoy it with riverside paths and open spaces.

However, all is not well in the River Anton. Historic development and river management has had a serious effect on its wildlife and amenity value. The Borough Council, County Council, Environment Agency and Hampshire and Isle of Wight Wildlife Trust have formed a partnership to tackle the changes being experienced by the river. A strategy has been prepared which identifies the key issues and puts forward some

actions which are aimed at improving the river and its environment.

The River Anton Strategy has 4 broad objectives which are:

- To improve the river and its value for wildlife
- To improve public access along the river
- To involve the community in projects to improve the river
- To ensure the full potential of the River Anton as a chalk river habitat is realised and secured for the future.



Anton Lakes (by Mike Hall)

Getting to the reserve and parking

Green travel

When visiting this precious reserve, it is important to think about the environmental impact of your travel choices.

Access

Local people use the reserve regularly as a place to exercise themselves and/or their dogs, to fish or enjoy the wildlife. A network of paths, many suitable for wheelchair access are maintained around the reserve. Most visitors have little impact on the site, but some leave litter that has to be cleared and cause damage to fences, signs and life-preservers which has to be put right by the Countryside Officers. Educational visits by schools and other groups are an important part of the reserves function and besides discovering the wildlife, it is hoped that these visits will increase the understanding about the management of the reserve and create a greater appreciation for this valuable resource.

The car park can be accessed off of the Redon/ Goch Way roundabout (SP10 3SY). Pedestrians can access the site from Artists Way, King Arthurs Way, Saxon Fields and Shepherd Spring.

Parking

The car park is located at the western end of the site. Access is directly from the roundabout on the ring road. From the A303, exit at the Andover West (Weyhill) junction and follow the signs for the ring road. At the second roundabout (Charlton) you will find the track leading to the reserve is between the first and second exits. The height barrier is 19 meters inside the turning so be prepared to stop if you are in a high vehicle, the barrier is 2.7 meters high. There is insufficient space for coaches to turn in the car park so passengers should be dropped at a safe location on Artists Way and guided to the reserve using the pedestrian foot path onto the reserve. Passengers can then be collected at the conclusion of their visit.

If travelling by mini bus the height barrier will need to be opened by prior arrangement with the Countryside Officer.

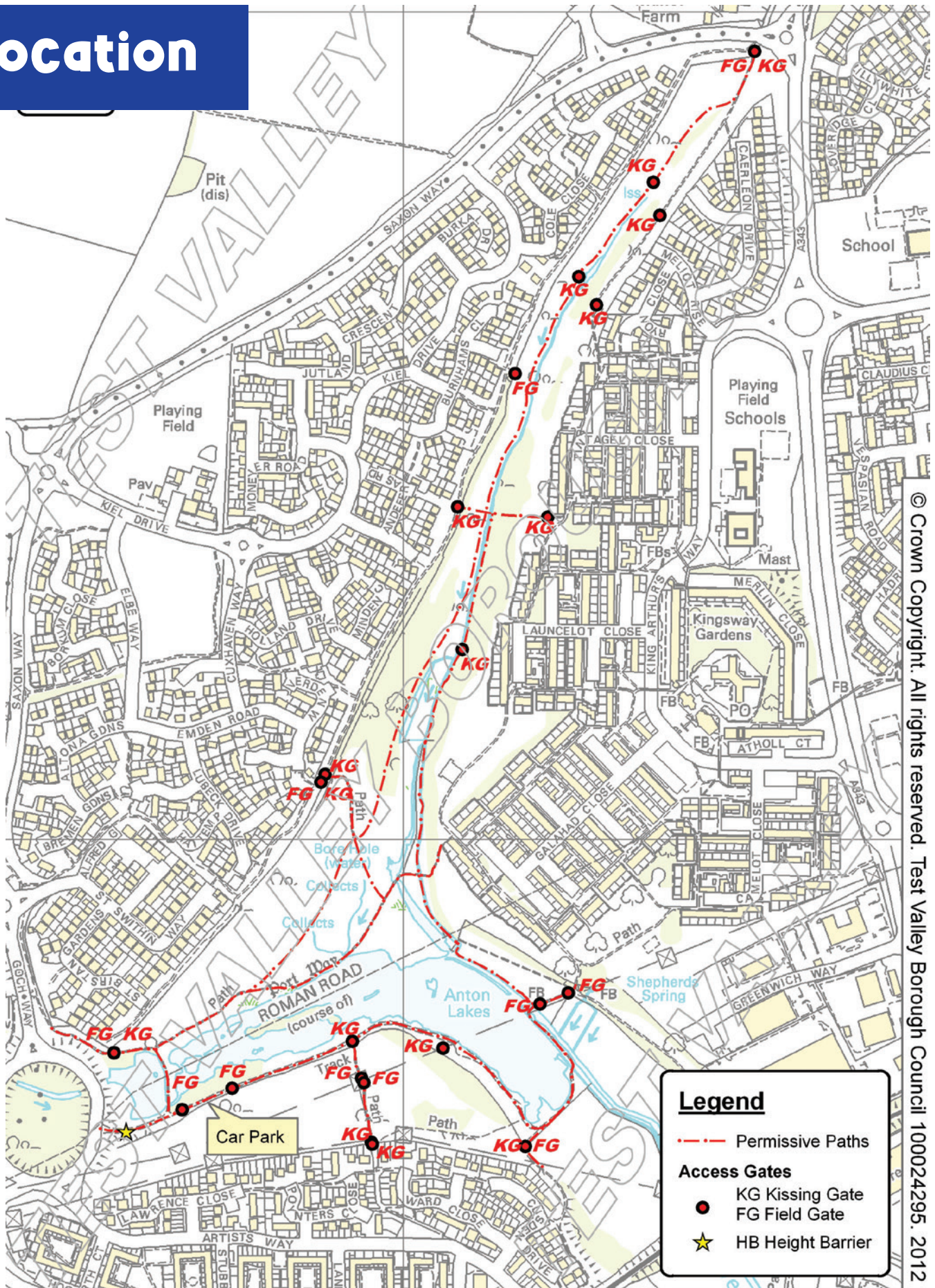
On-site facilities

There are wooden benches around the lakes connected by a network of gravel paths with shallow gradients making this a particularly good site for those in wheelchairs or others with mobility difficulties. All entry gates are wide enough for wheelchair access although some require a RADAR key. Raised boardwalks have been constructed where water levels rise and create water logged areas.

There are two interpretation boards on site. These contain information about the reserve and contact details for the Countryside Officer/TVBC.

Please note that there are no toilet facilities, shelters or hand washing facilities on site.

Location



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Legend

- Permissive Paths
- Access Gates**
 - KG Kissing Gate
 - FG Field Gate
 - ★ HB Height Barrier

Scale: NTS @ A4P
 Date: 19th Jan.2012
 Drawn: Ian Moodie
 Dept: GIS
 Doc:

Permissive Paths and Access Points Anton Lakes Nature Reserve

About this Educational Visitor Guide

Site learning visits are completely free!

Educational visits to this site can meet the needs of a wide range of the curriculum or can be designed as a stimulating and enjoyable event for those engaged in less formal learning. The aim of this guide is to indicate what this site has to offer and to provide some suggestions for its use. It is hoped that creative users of the site will devise many schemes of their own and be prepared to offer these for display on the Test Valley Borough Council website for the benefit of others.

This guide and activity sheets cover key topics in the curriculum and offer ideas on preparation, site visits and follow up activities. Activity sheets for pupils are available to print out, but activities can also be easily completed without worksheets via discussion and teacher-led questioning.

Schools or other groups are welcome to use the site at any time, although it is advisable to contact the Countryside Officers so that two groups do not try to do the same thing at the same time. A site based risk assessment can be provided on request and your own risk assessment for your visit should be sent to our Countryside Officers two weeks prior to your visit. Visitors should also be advised to dress appropriately to guard against rain, cold or sun and to wear suitable footwear. The Countryside Officer can meet you on site during your pre-visit to advise you on these and other matters regarding your visit. You should take this opportunity to assess mobile phone network coverage in case it is needed in an emergency. First aid is also the responsibility of the group organiser. If an ambulance is called, use the site map to determine which access point is closest to the patient and advise the emergency services of the road adjacent to that access point.

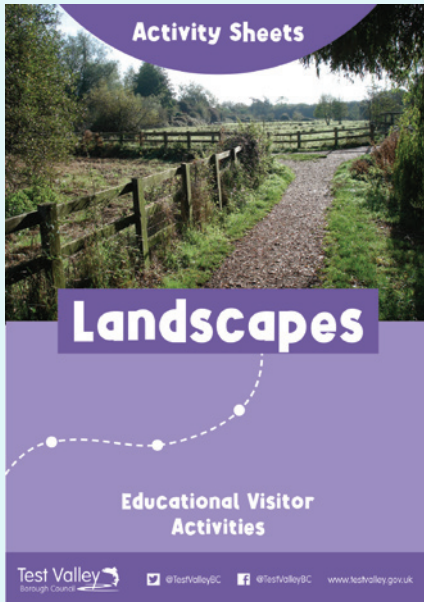
The Countryside Officer can be present during the visit to act as a guide or to describe the work that is done to manage the site, but the organisation of the visit and control of children or students remains with the group organiser, so the Countryside Officer should not be included in the adult ratio. Two weeks' notice is required if you wish a Countryside Officer to be present during your visit.

There are no toilet or handwashing facilities on site. Due to this we recommend that children do not eat and drink while visiting. If teaching staff decide otherwise we highly recommend to bring anti-bacterial gel provided that there are no allergy issues and bottles of water. There is no roof shelter on the site or seating for groups. Good waterproof clothing is important if rain is forecast.

This site takes approximately 1 hour to walk around

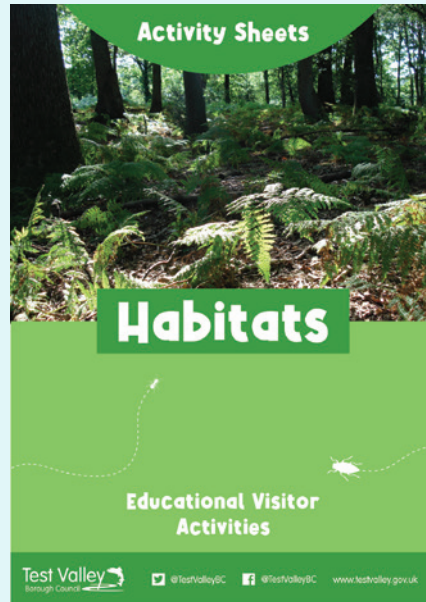
Activity sheets to accompany this guide

All of the activity sheets listed below are available to download from www.testvalley.gov.uk



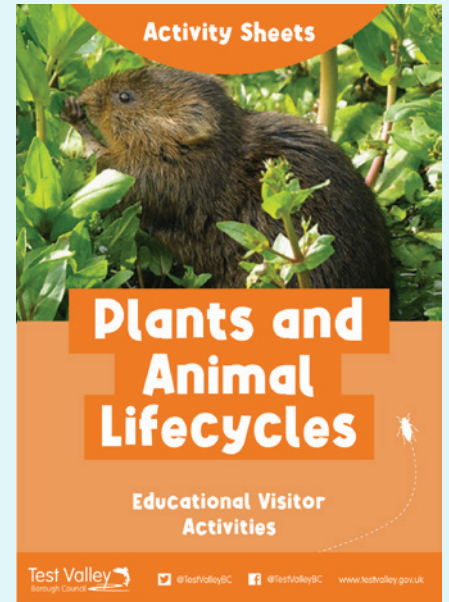
Landscapes

- If I were a Countryside Officer
- Write your own 'Discovery Trail'
- Warmer-warmer-cold!
- Nature's pattern
- A special tree
- Talking points
- Foreign plants – friend or foe?



Habitats

- Somewhere to live
- The moving shadow
- Spotting for points
- Something beginning with...



Plant and animal lifecycles

- Plant and animal tales
- As old as the trees
- What will I be where I grow up?

When visiting Anton Lakes Local Nature Reserve

please follow the Countryside Code!

- Be safe – plan ahead and follow any signs.
- Protect plants and animals and take your litter home.
- Leave gates and property as you find them.
- Keep dogs under close control.
- Consider other people.

Health and Safety

Although there are minimal risks involved when visiting a Local Nature Reserve you should be aware of the following:

Lyme's Disease

This is caused by infected ticks which are found in grassy or wooded areas. Initial symptoms may include a red rash around the bite and fever. Consult a doctor if symptoms appear. Precautions include wearing long trousers tucked into socks and long sleeves.

Weil's Disease

This is caused by infected rats' urine being present near waterways. Symptoms may initially appear flu like. Consult a doctor if symptoms appear. Precautions include covering cuts if working in or near water and washing hands before eating and drinking.

Toxocariasis

This is caused by a parasite in animal faeces. Humans can catch the disease from contact with grass, plants or soil where infected animals have been. Precautions include washing hands after touching soil or playing on grass.

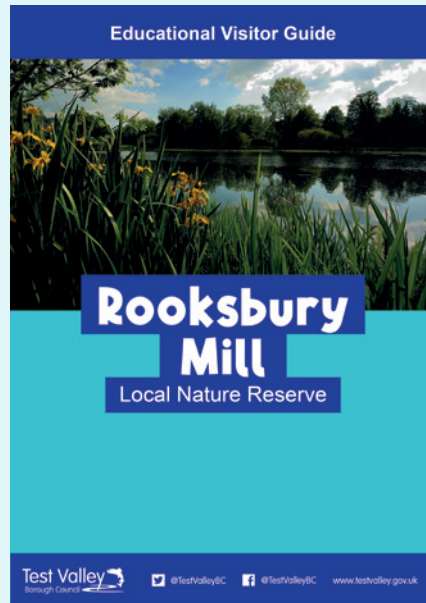
Further learning opportunities

As well as Anton Lakes LNR... Valley Park LNR; Rooksbury Mill LNR and Tadburn Meadows LNR. Together these sites provide children with an enhanced opportunity for learning and a rich personal experience of nature.

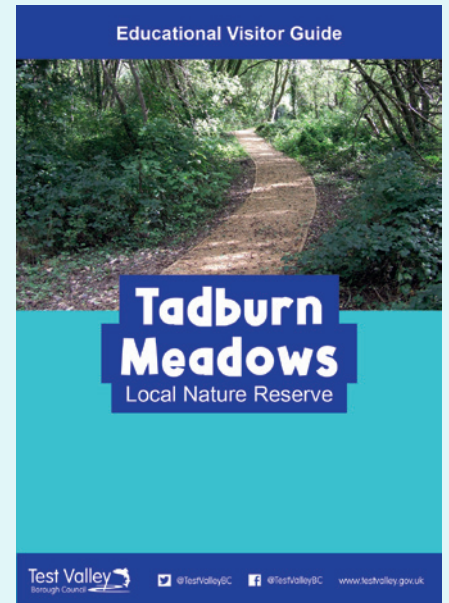
To obtain further information regarding the sites please visit the web address on the back cover of this education pack.



Valley Park LNR is the remnants of Ancient Semi Natural Woodland located in Chandlers Ford. The expanses of woodland, open water and grassland habitats provide inspiration for visits by younger children, or offer opportunities to measure changes in physical and biotic environment factors brought about changes in the underlying geology to topography. Land use issues are also a key feature, with modern housing developments bordering the woodlands.



Rooksbury Mill LNR provides a mosaic of chalk grassland, ponds and lakes on the southern outskirts of Andover. The reserves past history as a mill and trout fishery have shaped the areas we see there today, providing children with examples how humans have shaped the natural world.



Tadburn Meadows LNR provides a combination of running water and terrestrial habitats offering opportunities for studies into plants and animals and comparisons can be made between communities and adaptations.

This publication is dedicated to the memory of:

Len Weatherly



**Head Teacher
Shepherd's Spring Infant and Junior School,
Andover
1967 - 1984**

This guide contains a series of National Curriculum linked activities suitable for Key Stage 2 pupils. Some activities are adaptable for younger or older age groups, if necessary. The activities are suitable for use in the classroom or at a Test Valley Borough Council Local Nature Reserve. A detailed map of the site is included in the Educational Visitor Guide to help you find your way around the site.

The Educational Visitor Guides and activity sheets are available from our website: www.testvalley.gov.uk

For further information contact:

**Countryside Officers
Community and Leisure Service
Beech Hurst
Weyhill Road
Andover
Hampshire
SP10 3AJ
01264 368000**

Community&Leisure@testvalley.gov.uk