

Kent Wildlife Trust Wildlife Study Day Information Sheet

No.	15	Title	The Geology of the White Peak	Date	4th- 6th June 2010	
No. of students	10-20	Start time	10.00 am	Finish time	4.30 pm	
Leader		<p>Peter Golding BSc, FGS. Peter is a freelance lecturer and leader of geology courses for University of Kent, WEA and Kent Wildlife Trust. He has been leading field trips to geological localities around the UK for many years.</p>				
Who should attend		Anyone with an interest in geology				
Meeting place		Meet in the central car park at Castleton on Friday morning Grid Ref SK149829. There is a £5/day charge. (If the car park is full continue west and park by the roadside –charge will still apply- meet in car park)				
Other sites to be visited		We will visit a variety of sites during the weekend. See the programme below.				
Programme		<p>During this weekend in the Derbyshire Peak District, we shall have an opportunity to study the rocks and fossils of Carboniferous age. Around Castleton, these are reef limestones. Many mineral veins of late Carboniferous/Permian that was the basis of an important mining industry cut them. They are overlain shales and sandstones of the Millstone Grits seen in the magnificent landslip scar of Mam Tor. We shall also see typical Millstone Grits forming Curber Edge where we will attempt to interpret the bedrock sequence when buried by a blanket peat bog. There are many other geomorphological features such as dry valleys and extensive cave systems.</p> <p>Friday. From the car park, we will walk through Castleton up into Cave Dale to examine the Carboniferous reef exposed in its walls. At the entrance, beds of fore-reef limestones dip off the reef front whilst further up the Dale back-reef limestones dip gently southwest. At the top of the steepest section, basalt lava is interbedded between the limestones. The Dale was cut by melt water and lies just above the great cave system of Peak Cavern.</p> <p>After returning to Castleton for lunch, we will drive up into Pin Dale to view the reef again in the old quarry. Here boulders along the reef-front can be seen together with limestone shoals and palaeokarst of the reef top.</p> <p>We shall end the day along Dirlow Rake, one of the many mineral veins to cut the limestones in Derbyshire. Here galena, fluorspar, barite and calcite may be found in the old</p>				

	<p>tips. Toilets are available at the visitor centre but there are none once we leave Castleton.</p> <p>Saturday. Travel through Castleton and take the right fork (no through road). Park in the little car park below Treak Cliff Cavern (Grid Ref SK137833). Here we will take a trip underground to see the Blue John <i>in situ</i>. There is a £7.95 charge (OAP charge of £6.95). Return to the cars and travel further along the road and park at its end. Here we will see the remains of the Odin Mine and the relation between mineralisation and faulting in the limestones. Minerals found on Friday may again be seen here.</p> <p>We will then walk up the old main road below Mam Tor to view this huge land slipped area and gain access to the Mam Tor Sandstones that show a variety of sedimentary structures such as load casts and flame structure.</p> <p>After crossing the slipped area we will continue to Windy Knoll quarry to see unique deposits of various organic ‘minerals’ contained within the limestones and closely associated with the mineralisation. Finally we shall return to the cars via another dry valley cut through the reef ; Winnats Pass. Toilets are available at Treak Cliff Cavern and at the bottom of Winnats Pass. There aren’t any during the rest of the day.</p> <p>Sunday. Leave Castleton and travel east eventually reaching the A623 towards Chesterfield. In the village of Calver Grid Ref SK245744 cross the River Derwent and immediately look for the minor road on the left to Curber . Travel up the steep lane that climbs Curber Edge and park in the car park Grid Ref SK262747. There is a charge.</p> <p>We will take the short walk up onto the Edge to examine the geology of the Millstone Grit. However, the main object of the day is to gain an insight into mapping the geology where everything is covered by peat bog. The technique is called feature mapping and is used by the British Geological Survey in such a situation. We will try to produce our own map for a traverse across a few hundred metres of moor. It should be an interesting exercise! Toilets unfortunately there are no toilets at or near Curber Edge.</p>
Subjects to be covered	<p>During the weekend we will:</p> <ol style="list-style-type: none"> 1 Study the Carboniferous Limestones and fossils of the reef belt around Castleton. 2 Discuss the huge Mam Tor landslip and the sedimentary features of the Mam Tor Sandstones, a turbidite sequence. 1. Study the mineralisation of the limestones and the occurrence of Blue John.

	<ol style="list-style-type: none"> 2. View and explain the geomorphological features of the area. 3. Study the Millstone Grit. 4. Discover the techniques of feature mapping and have a go at producing a mini map.
What to bring	Hand lens, weatherproof clothing and footwear suitable for walking on a variety of surfaces. We shall be out in the field for lunch on Saturday and Sunday so bring a packed lunch on each day. Some surfaces are rough/rocky so if you use walking sticks/poles bring those.
Other information	<p>Lunch we shall return to Castleton for lunch on Friday but for the other two days please bring a packed lunch as we shall be out in the field.</p> <p>Walking distance is about 3 kilometres on Friday and Saturday with about half that on Sunday. Please be aware that the walk up Cave Dale involves walking over limestone rubble which can be unpleasant particularly if wet. Both Friday and Saturday involve a climb of about 200 metres.</p> <p>Collecting Hammers are not allowed and any collecting is extremely limited.</p> <p>Accommodation Please book your own accommodation. I will be staying in the Castleton area. Traditionally the group goes out for a meal together on the second evening. If you would like to join us you should take this into account if you book meals with your accommodation.</p> <p>My mobile number is 0792 3600147 if you need to contact me during the weekend. Normally it is switched off as I only use it for emergencies</p> <p>Last Day will end about 2.30 for the journey home but you can leave at any time.</p>