



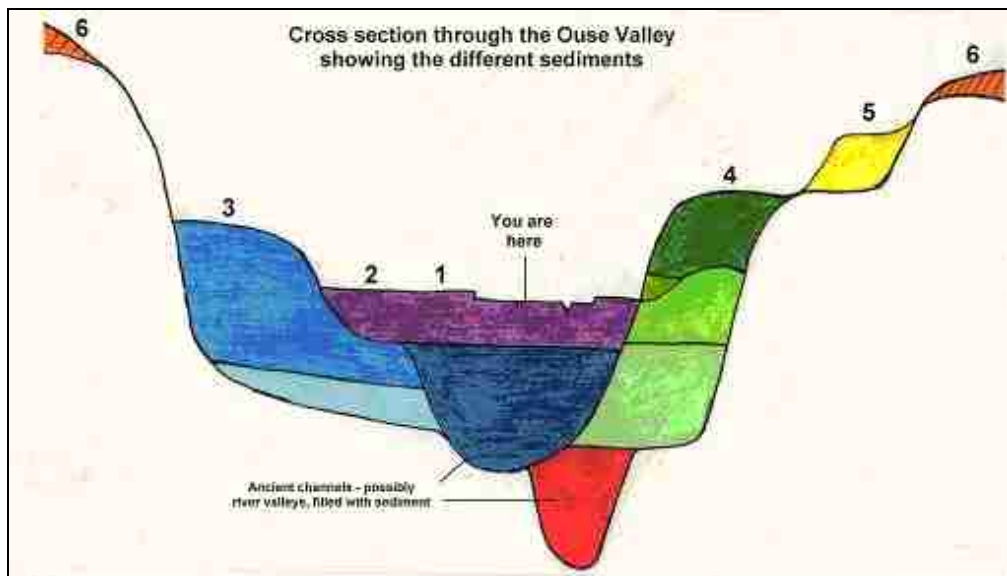
## Fact Sheet Landscape & Geology of the Park

As you look across Grebe Lake from the Visitors' Centre, it is difficult to image that this scene has witnessed complex earth movements, climate change, submersion under the sea, glaciation and massive flooding. It's all true and it fits into a story that started a long time ago.

Although it is possible to go back even further, our story starts about 165 million years ago. Then the area was covered by a sheltered coral sea. Later, the sediments that lay under the sea were compressed into rock and were exposed as sea levels changed.

The massive movements of the earth's surface that created the Alps affected the area. The rocks were tilted into folds and on top of these, layer upon layer of material were deposited. Much of this happened during a period of time spanning 1 million years to the present day. The materials came from rivers and from ice sheets that once covered the area.

The Country Park lies on deposits thought to have been laid down 67,000 years ago during the Devensian Ice Age. That's quite recent in geological time!



Number	Where is the evidence?	What will I find there?
1	Radwell	Post-glacial valley and sediments
2	Galley Hill	
3	Railway cutting NW of Bedford	Late Ipswichian & Early Devensian sediments
4	Stoke Golding	Mid Ice Age gravels
5	Biddenham	Early inter-glacial sediments
6	Sharnbrook Summit	Anglian ice age melt water deposits

The ice sheets brought many different layers of sand, gravel and other materials to the area. These were later eroded and moved about by rivers created as the ice sheets melted.

We tend to associate glaciers and ice sheets with mountainous areas or the polar regions, just as we tend to think that climate change is something new.

Climate change has affected the UK including East Anglian on a number of occasions. Our area has experienced a number of Ice Ages.

The map shows the extent of the Anglian Ice Sheet which covered our area to at least 500m.. It carved out the landscape and when it melted, the whole valley would have been filled with water,



One of the bi-products of the erosion caused by the ice and its melt waters can be seen today. To the south of the main track through the Park, you can see Chellington Church standing on what to the untrained eye looks like a hill. The church stands on a terrace that dates back to glacial times. The land in front of the church has been cut away by ice and melt water, and built up with deposits of gravel to create the valley you see before you.

Chellington occupies the terrace on the south side of an earlier valley with the higher sections of the road from Harrold to Lavendon occupying the north side. In the river meadows alongside the River Ouse it is also possible to identify a lower and older terrace. This is obvious when the meadows are flooded. These two terraces provide some of the evidence to support the view that the landscape of the Park has changed several times in the past.

Included in the deposits created during our glacial past were the sand and gravel that were quarried here in the 1960's and 1970's. Traces of these economically valuable materials can be seen in exposed sections of the bank of Grebe Lake. Unfortunately the fossil rich clay that lies below the sand and gravel are now covered by the waters of the Grebe Lake.

How do we know all this? Geologists use information from the gravels, fossil remains, buried pollen and other deposits to work out the date of each terrace. While the evidence can be very sketchy, geologists are constantly working to fill in the pieces of the jigsaw eg using borehole data.