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## 32 Tarn Hows

**Theme:** Earthquakes and folded rocks

### Location

32 Tarn Hows — deformed Silurian limestones. There is parking and a good footpath around the Tarn [SD 331 999].

### Description

Tarn Hows has been a well-known beauty spot since the Victorian era. Geologists like it here too, because it's somewhere they can study a very significant change in Lake District geology.

Tarn Hows is one of the places where there is a transition from what was once an ancient volcanic land above sea level, to a deep ocean called the Iapetus. Along the southeast shore of the Tarn the volcanic rocks that form the central fells, disappear beneath younger limestones, siltstones, sandstones and mudstones. These oceanic sedimentary rocks are mostly Silurian, that is between 420 and 440 million years old. Initially the water was shallow and the limestones were deposited. Over millions of years the ancient ocean deepened and sand, silt and mud more than six kilometres thick covered its floor. The two continents which bordered the Iapetus Ocean collided and closed it. The shape of the Lakeland landscape reflects these events; the sedimentary rocks around Conistone and Windermere are far less rugged and not as high as the more resistant volcanic rocks of the fells to the north. Just 200 metres or so northeast of the tarn the layers of limestone rocks you see are no longer horizontal, they are inclined at around 60 degrees. They also show regular cleavage at an angle completely different to that. The cleavage and slope in the rocks are because the original sediments have been compacted and then tilted by pressures deep underground.

Beatrix Potter lived close to Tarn Hows and she used to own part of it before she presented it to the National Trust. It is a justifiably popular place, with superb views of the fells and excellent access to the tarn. But you only have to walk a little way off the beaten track to seek out these ancient rocks and you will have the place to yourself. Curiosity about geology often reveals secret places.

### Photographs

(Photo 32-1) 32 Tilted and deformed Silurian limestones northeast of Tarn Hows.

(Photo 32-2) 32 Tarn Hows.



*(Photo 32-1) Tilted and deformed Silurian limestones northeast of Tarn Hovs.*



*(Photo 32-2) Tarn Hovs.*