
7 Kentmere

Theme: Rivers, seas and life

Location

7 Kentmere — lacustrine diatoms. Parking is in short supply in the valley, but you get a view of the Tarn via the footpath to its west [NY 455 026].

Description

What are smaller than the width of a human hair, can double their population every 24 hours, generate about 35% of the world's oxygen and used to live in Kentmere?

The answer is diatoms, a form of single-celled algae that live mostly in water, including the oceans, and absorb silica to build their skeletons. They thrive in cold, clear water and colonised the original Kentmere lake (which gave the valley its name) around 10,000 years ago after the last glacier left. While diatoms are found in many upland lakes in Britain the huge volume and purity of the diatoms in Kentmere was unusual. This is probably down to the unique position and shallowness of the lake, the lack of sediment that flowed into it and perhaps the abundant silica in the volcanic rocks to the north. Several metres thickness of diatoms collected at the bottom of the lake and their accumulated skeletons became geology: diatomaceous earth. Sometime in the mid-19th century Kentmere was drained to try to create more farmland. It wasn't a success and the old lake bottom remained boggy. In the 1920's two geologists accidentally discovered the diatomaceous earth. Its physical properties made it valuable; it is inert, very light, and doesn't conduct heat well. Excavation probably began in the 1930's and, as the current tarn progressively formed, work continued by dredging. The diatom skeletons were dried, crushed and then used in many things, from filters to abrasives to insulation. Working stopped about 1980, and at its maximum 10,000 tons was being extracted each year. The men who worked there also discovered two dug-out canoes in the old lake bed; one found in 1959 is probably Viking and you can see it in Kendal Museum.

Diatoms are not just geological or biological curiosities. Our modern demand for miniaturisation of components means that scientists are presently researching how diatoms reliably and repeatedly manufacture their complex skeletons to create amazingly resilient nano-scale structures.

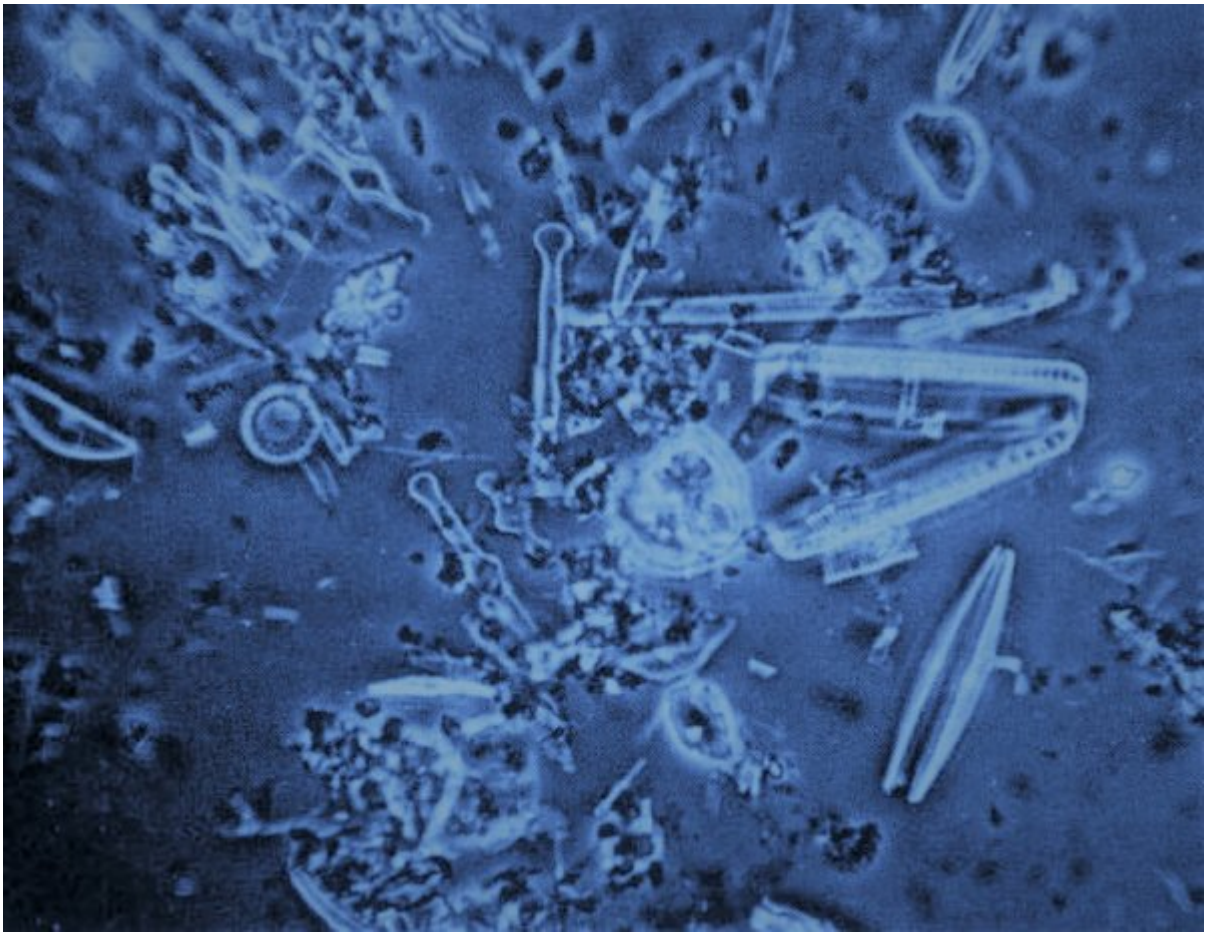
Photographs

(Photo 07-1) 7 View north over Kentmere Tarn.

(Photo 07-2) 7 Kentmere.



(Photo 07-1) View north over Kentmere Tarn.



(Photo 07-2) Kentmere.