JANUARY MEETING

Ecology and Geology of the White Cliffs

Melanie Wrigley

Reported by Derek Leach

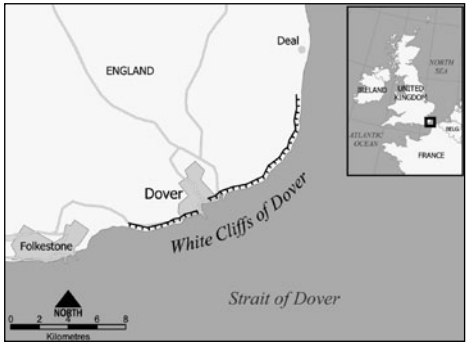
Our January speaker was Dovorian Melanie Wrigley who, as a child, loved the sea, beach and cliffs. At university she studied biology and geology. For many years she worked for the White Cliffs Country Partnership (from its start in 1989) helping to conserve the chalk grasslands between Folkestone and Dover, including manmade Samphire Hoe. For the last two years Melanie worked for the National Trust with the help of volunteers on a Species Recovery project searching for and conserving ultra-threatened plant and invertebrate species.

GEOPARK AMBASSADOR
CROSS-CHANNEL GEOPARK TRANSMANCHE

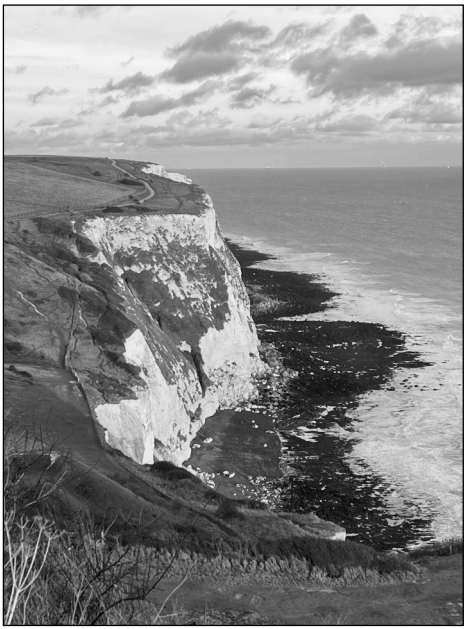
Melanie has also become a GeoAmbassador for the new aspiring Cross Channel GeoPark. This project is a cross-Channel collaboration between the Parc Naturel Regional des Caps et Marais d'Opale (France) and the Kent Downs National Landscape (United Kingdom) seeking to gain UNESCO Global Geopark status for the North Downs, fifteen miles of chalk coastline and equivalent chalk landscape areas in common to both countries. The cliffs at Dover are c110 metres (395 feet) at their highest, formed from about c12 million years of deposition. The two countries were joined by a chalk land bridge until the sea breached it 450,000 years ago, but the chalk link still exists under the Channel. If the application submitted is successful, it would be the first Geopark in the world to include undersea geology.

Outcropping chalk is an internationally rare rock with the UK and France having much of it. In the southeast, it is concentrated as the North and South Downs. Composed mainly of pure limestone (calcium carbonate), it is alkaline, having a thin, nutrient-poor soil capable of incredible

Melanie and Dad on Dover Beach



Map of the Extent of White Cliffs of Dover



Langdon Stairs Cliff and Low Tide Wave Cut Platform

biodiversity if not swamped by more prolific species. Traditionally, chalk grassland was grazed by both wild and domesticated animals, but since the 1960s, lack of grazing and the impact of myxomatosis on the rabbit population endangered this rare habitat, with grassland invaded by trees and bushes and the resulting 'shade' killing off/reducing the habitat for the rare chalk grassland plants and the dependent wildlife.

Today, the grasslands and their biodiversity are being protected and improved using Exmoor ponies and Dexter cattle to graze the land. As the animals graze, more of the nutrients from the grassland get incorporated into the body of the grazing animals than gets excreted back into the soil. This reduces the fertility of the soil, which is better for the herbs, orchids and other chalk grassland specialist plants. The dung is great for insects, including dung beetles, and rare butterflies, and the short grass allows plants, including orchids, harebells and cowslips, to flourish with their seeds making use of small bare patches of soil created by animals' hooves. This 'cooperation' in nature between plants and wildlife, such as ants protecting Adonis blue butterfly chrysalises, has resulted in an increase in animal and plant species across the grasslands, including better cover for animals and an increase in birds of prey.

Aided by many images, Melanie demonstrated not only her extensive knowledge of her topic, but her passion for it. She ended on a sobering note, quoting a statement from a recent astronaut whilst showing a photo from 1968 looking at planet Earth from the moon (this image helped spark the environmental movement because of this realization). The 'blue pearl' of Earth surrounded by the black of space! The astronaut thinking how insignificant the trials and tribulations of humanity were compared to the wonder, fragility and the vulnerability of the Earth with its thin atmosphere. He stated "…This is our life support system! Our 'spaceship! There is no back up system. No planet B. Just us. Humankind needs to care for Earth, its environment and All Life on Earth."

Exmoor Ponies