

WNFC Fieldtrip Report: February 2016



The February 2016 field trip of the Wexford Naturalists' Field Club took place at Cullenstown Strand on Saturday 13th. The event was advertised in the club programme as 'Cullenstown - a case study in coastal erosion and protection with Jim Hurley'.

Twenty-two members and guests attended at 2pm on a cold but dry day. Thankfully, the rain that was forecast for the afternoon held off until the fieldtrip had finished.

We started at The Gap and focused on climate change over millions of years. We took the long view and considered the last ice age, the weight of the ice on the land below, the Earth's rebound when the ice melted, the debris left behind by it, local minor earthquakes as the crust readjusted, rising land level and absence of erosion at The Gap for the past 175 years.

We proceeded to the handball alley, built around 1912 by the Boyce family, the local landlords. We remembered Sergeant James Curran and Privates Peter Conlan, James Kehoe and Joseph Tinsley all of whom lost their lives when the mine they were trying to make safe on the beach blew up on 27 January 1941. We inspected the southern side wall of the alley that was knocked by a storm in October 2004 and rebuilt during the summer of 2005.

We ventured to the water's edge, studied the waves, measured wave period and considered the impacts of both constructive and destructive waves on the beach. We looked at the outcropping bedrock derived from highly changed, unsorted sediments that had their origin early in the Cambrian period of geological time some 545 million years ago.

We went back to the ball alley and ascended to the top of the high front wall to get an overview of the strand. We saw how the rock armouring revetment built in 1997 had stabilised the upper beach and allowed vegetation to get a foothold. We reflected on fluctuating beach levels and the enormous quantities of sand and other sediments being moved around by the sea.

We descended back to beach level to see the revetment close-up. Mary Foley and Marian Brady shared valuable local information about the changes they had seen in the beach over the years. We walked to the tidal inlet/outlet known locally as 'the bar'. While it is still known as the Bar o' Lough, it has relentlessly migrated westward from the townland of Lough through the townland of Coolseskin and into the townland of Cullenstown as the spit continues to grow westward.

We noted we were in the Ballyteige Burrow Natura 2000 site, Special Protection Area No 4020 since 1987 and candidate Special Area of Conservation No 696 since 1997. We saw where Little Terns used to nest, alas no more.

We dwelt on coastal processes, considered the prevailing south-westerlies, the wave shadow created by the Keeragh Islands, wave refraction and how longshore sediment transport is predominantly westerly to the east but easterly to the west. All of these factors make for a highly dynamic and mobile river mouth as the tidal waters try to find an exit at the point of lowest wave energy.

We saw the ebb delta complex and considered the large sediment compartment in Ballyteige Bay and the sediment budget as the rate of sediment input tries to balance the rate of sediment output. We imagined how a deficit could arise and when it would how sediment would be withdrawn from the land bank, via coastal erosion, to meet that deficit.

We noted the measured erosion rate on the soft bank since 1841 of 1m/year northward (inland) and 3.6m/year westward. Threats facing the area from coastal erosion are considered to be fourfold: (1) immediate and on-going loss of agricultural land, (2) short-term loss of beach amenity, (3) longer-term concerns about some peoples' homes and properties and (4) a possible long-term threat to the public road.

We examined coastal protection works. We heard how attempts made in the early 1990s to train the river mouth and to stop it from wandering had failed. An environmental review was carried out in 1996. Six engineering options were proposed, detailed, costed and evaluated in 1999. And while well over half a million euro was spent protecting the base of the cliff from erosion recent studies suggest that more will need to be done by mid-century to protect the area from ongoing erosion.

After a very enjoyable, stimulating and thought-provoking fieldtrip on a dry but cold afternoon we retired to The Red Door restaurant in Carrig-on-Bannow for very welcome hot refreshments, a chat and a catch-up with fellow members of the WNFC.