

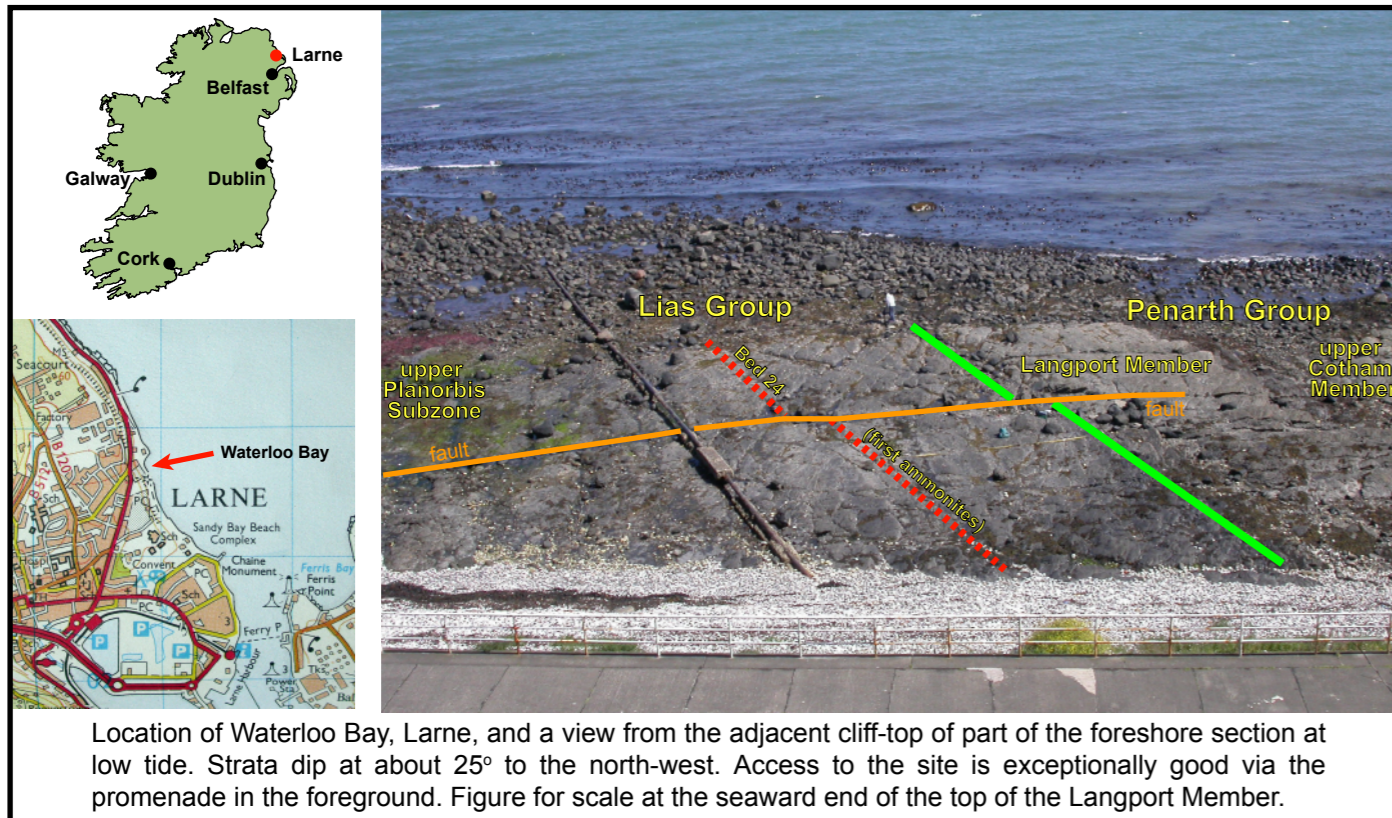
Waterloo Bay, Larne, Northern Ireland: A potential Global Stratotype Section and Point (GSSP) for the base of the Jurassic System

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The foreshore at Waterloo Bay, Larne, on the east coast of Northern Ireland, exposes an almost uninterrupted succession from the upper part of the Mercia Mudstone Group (Triassic, Norian) through to the Bucklandi Zone of the Lias Group (Jurassic, Sinemurian).

The Triassic-Jurassic boundary succession at Waterloo Bay is proving to be superior in many respects to that at St. Audrie's Bay, in south-west Britain, which, for decades, has been cited as a candidate Global Stratotype Section and Point (GSSP) for the base of the Jurassic System.



What has the Larne section to offer as a potential GSSP?

Exceptional stratigraphic thickness

The Triassic-Jurassic boundary succession at Larne is significantly thicker, and experienced more continuous deposition, than correlative strata at St Audrie's Bay or at any other site in NW Europe. It offers potential for refining the isotope curve of Hesselbo et al. (2002; *Geology*, **30**, 251-254) to a significantly higher resolution.

Diverse macro- and microfauna and flora

The fossil macro- and microfauna (ammonites, bivalves, gastropods, echinoids, crinoids, trace-fossils, vertebrates, ostracods, foraminifera) are abundant and diverse. Data for the nearby Larne borehole are already published. The diversity and preservation of the earliest Jurassic ammonite fauna in the Larne Basin is superior to that at St. Audrie's Bay or at any other UK site (see poster below).

Potential for global correlation

Two orders of sedimentary cycles, largely unaffected by diagenetic limestones, can be recognised at this site (this poster, far right). Analysis, combining sequence stratigraphy and cyclostratigraphy, indicates that these cycles reflect eustatic fluctuations and hence have significant potential for global correlation (see website for more detailed discussion).

