

---

## **NWHG Ref. 063 — Stac Fada “Meteorite Site”**

### **Location, grid reference**

The site is located on the west coast about 0.5 km north-west of the beach at the Bay of Stoer, Grid Ref. [NC 033 284].

### **GCR site reference, block, volume and notified feature of SSSI?**

GCR Ref. 1604, Torridonian Block, Vol. 34. Confirmed GCR site, not SSSI notified.

### **Description and geological significance**

The Stoer Group, which forms the coastal exposures at the Bay of Stoer, is the oldest member of the Torridonian Sandstone sequence and contains the 11 m thick Stac Fada Member, originally interpreted as a very extensive layer of volcanoclastic sandstone. However, recent studies initially published in 2008 by the Universities of Aberdeen and Oxford, have re-interpreted this layer as representing a layered ejecta deposit, formed when a meteorite hit the ground 1.2 billion years ago. Nonetheless, there is some debate amongst geologists about this new interpretation and researches are still ongoing. The site is therefore very important as it represents the possible near-location of a major meteoritic impact during Mesoproterozoic times as well as being the subject of current (slightly controversial) re-interpretation of an important older member of the Torridonian Sandstone sequence.

### **Accessibility**

The nearest car park is located at Stoer cemetery and a short 500 m walk is required across undulating and locally steep grassy coastal slopes to access the outcrop below on the rocky shore. Some scrambling is required at the outcrop. No all abilities access.

### **Conservation**

Due to the potential importance of the site and the relatively narrow width of the Stac Fada outcrop, there is a moderate conservation requirement to ensure that key features are not damaged by over-eager rock-hammering.

### **Visibility and “clarity”**

The location of the site on the coast can be recognised in the distance from the roadside at Stoer. Once the site is reached, features are very easy to identify with specialist assistance.

### **Interpretation and interpretation potential**

The site is currently used as the basis of guided walks led both by the Highland Council Ranger Service and by the Geopark Geo-Ranger. An explanatory sheet has been prepared for visitors but there is no interpretation panel at the Bay of Stoer. Although some basic features can be discerned by the lay-public, it requires the assistance of a specialist to accurately locate and explain the key geological features. There is considerable potential here to locate a new interpretation panel at Bay of Stoer and the site should certainly be included in a future Geopark guide. The site is also important as an educational resource for geology students and researchers, especially as it is a good example of a recent geological re-interpretation which, so far, is not conclusive.

### **Key references**

AMOR, K., HESSELBO, S.P., PORCELLI, D., THACKREY, S. & PARNELL, J. 2008. A Precambrian proximal ejecta blanket from Scotland. *Geology*, 36, 303–306.

SANDERS, I.S. & JOHNSTON, J.D. 1989. The Torridonian Stac Fada Member: an extrusion of fluidized peperite? *Transactions of the Royal Society of Edinburgh, Earth Sciences*, 80, 1–4.

STEWART, A.D. 2009. Stoer. In Mendum, J. R., Barber, A. J., Butler, R. W. H., Flinn, D., Goodenough, K. M., Krabbendam, M., Park, R. G. & Stewart, A. D. (eds) *Lewisian, Torridonian and Moine rocks of Scotland*. Geological Conservation Review Series, 34, Joint Nature Conservation Committee, Peterborough, 187–193.