Sleat 6:

North Sleat

The northern hills of Sleat are composed of Late Proterozoic ('Torridonian') strata within the Kishorn Thrust Sheet of the Moine Thrust Zone. These strata contain excellent examples of cross-stratification, ripples and soft-sediment deformation phenomena. A traverse from Bealach Udal in Glen Arroch to the summit of Sgùrr na Coinnich illustrates the overturned nature of a major fold within these strata. The summit of Sgùrr na Coinnich provides a superb vantage point across Skye and the Mainland.

Aspects covered: cross-stratification, ripples and soft-sediment deformation structures within non-marine clastic strata of the Late Proterozoic ('Torridonian') sequence within the Kishorn Thrust Sheet of the Moine Thrust Zone; a major overturned fold within the trust sheet.

Route: Bealach Udal in Glen Arroch - Sgùrr na Coinnich - (- return Bealach Udal)

Distance: Up to 10km (6 miles).

Time: 4-7 hours.

General comments: An adaptable excursion to examine sedimentological and structural aspects of the Late Proterozoic ('Torridonian') clastic sequence in North Sleat, mainly on Sgùrr na Coinnich. The excellent and easily accessed exposures of these strata, located within *c.*200m of the road on its north side, are detailed in *Excursion Sleat 5*. The present excursion is an extension, involving a traverse to the summit of Sgùrr na Coinnich, and demonstrates the nature of the evidence used to define a large-scale overturned fold within the Kishorn Thrust Sheet. Duration and distance can be adapted as required.

Access the Kylerhea road near to Lusa, east of Broadford, and go SE for *c.* 7km (4.5 miles) to Bealach Udal, where there is an obvious mast on the south side of the road. Parking is available. The track to the mast should not be blocked.

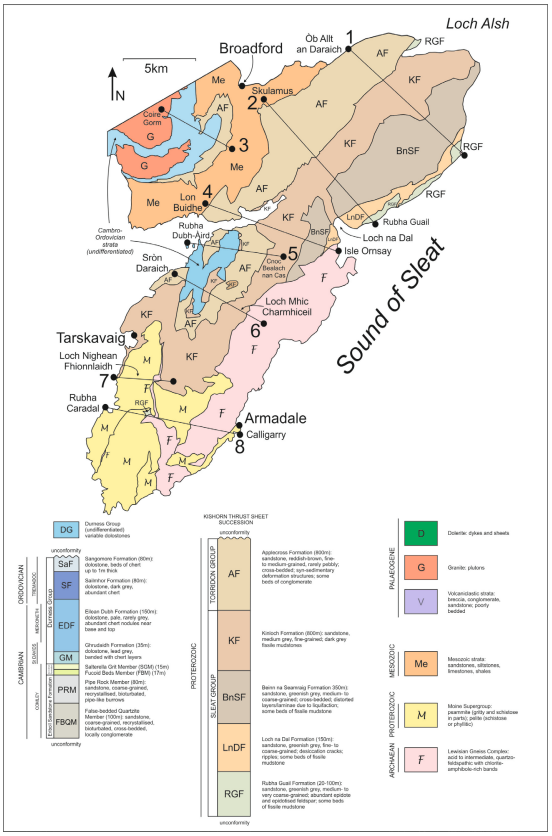


Figure Sleat 6.1: Simplified geological map and location lines of cross-sections for Sleat. Sections 1 & 2 detail the structure of the Torridonian strata in North Sleat.

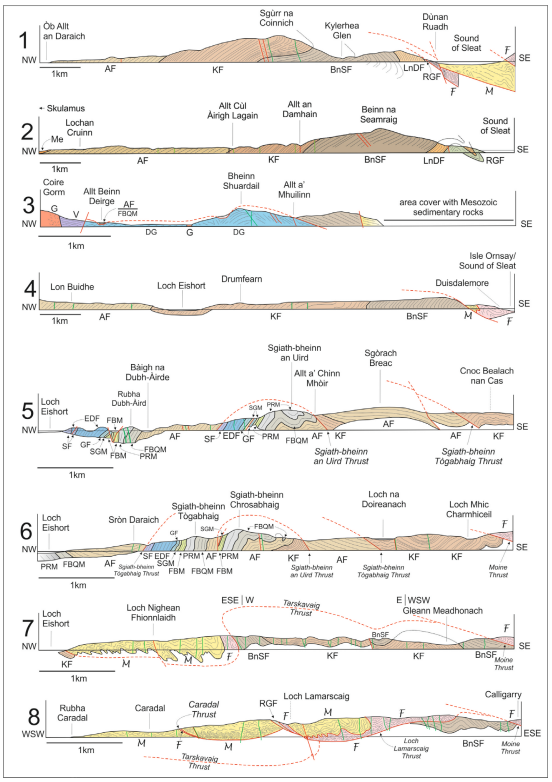
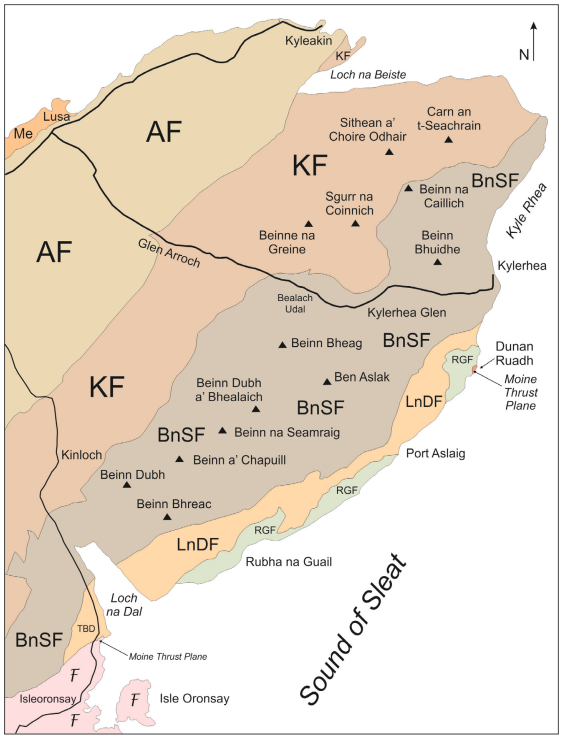


Figure Sleat 6.2: Simplified geological map and cross-sections for Sleat. Sections 1 & 2 detail the structure of the Torridonian strata in North Sleat.



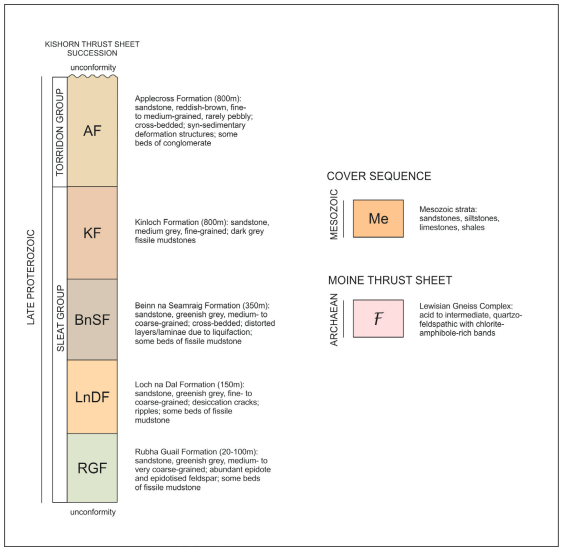


Figure Sleat 6.3: Simplified geological map for North Sleat.

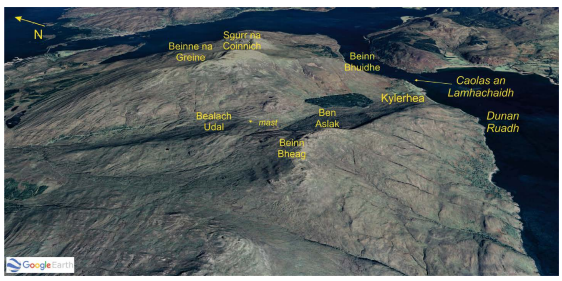


Figure Sleat 6.4: Annotated oblique Google Earth® images of Bealach Udal (Glen Arroch) and the area to the north.

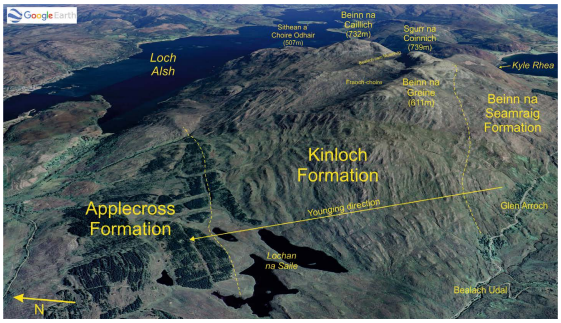


Figure Sleat 6.5: Annotated oblique Google Earth® image of Bealach Udal (Glen Arroch) and the area to the north, illustrating the approximate outcrops of the various formations within the Late Proterozoic Torridonian sequence.

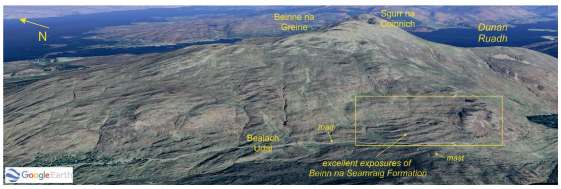


Figure Sleat 6.6: Annotated oblique Google Earth® image of the area north of Bealach Udal (Glen Arroch), indicating the location of the Beinn na Seamraig Formation strata described in *Excursion Sleat 5.*

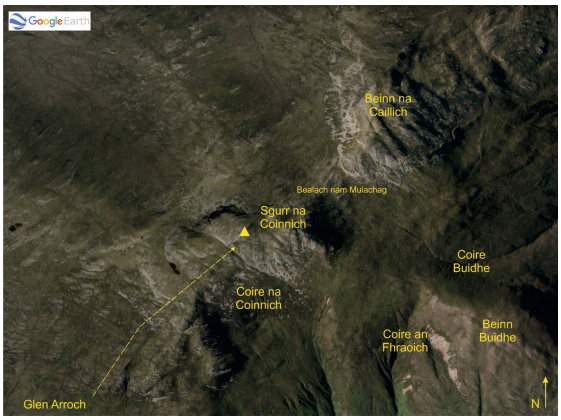


Figure Sleat 6.7: Annotated oblique Google Earth® image of Sgùrr na Coinnich area, indicating approximate route to be taken to the summit.

Figure Sleat 6.8: View towards Sgùrr na Coinnich, along the approximate line of route to be taken to the summit.

Figure Sleat 6.9: General (northerly) inclination of Kinloch Formation strata on the lower slopes of Sgùrr na Coinnich. View is towards the east.

Figure Sleat 6.10: Example of a common right-way-up indicator within Kinloch Formation strata on southern lower slope of Sgùrr na Coinnich: an eroded upper surface of cross-stratified sandstone overlain by a graded coarse sandstone. Pole *c.* 1m long.

Figure Sleat 6.11: Example of a common right-way-up indicator within Kinloch Formation strata on southern lower slope of Sgùrr na Coinnich: fine-grained sandstones and siltstones with soft-sediment deformation structures and erosion surfaces. Coin *c.* 24mm across.

Figure Sleat 6.12: Example of a common right-way-up indicator within Kinloch Formation strata on southern lower slope of Sgùrr na Coinnich: an eroded upper surface of cross-stratified sandstone overlain by coarse sandstone. Coin *c.* 24mm across.

Figure Sleat 6.13: Typical quartz-dominated hydrothermal veins within Kinloch Formation strata on the southern upper slope of Sgùrr na Coinnich. Pole *c.* 1m long.

Figure Sleat 6.14: Example of rare, thin, jointed dolerite sheet within Kinloch Formation strata on the upper slope of Sgùrr na Coinnich. Pole *c.* 1m long. The sheet is most likely of Paleocene age and post-dates the formation of the abundant hydrothermal veins within the host sandstone. Pole *c.* 1m long.

In the vicinity of the summit area of Sgùrr na Coinnich, especially on the west side, there are excellent examples of indicators that the sedimentary sequence is inverted, that is, it 'youngs' downwards, indicating that these strata are on the inverted limb of a major fold within the Kinloch Thrust Sheet. Such folds formed during the compressional, thrust-developing events of the Caledonian Orogeny.

Figure Sleat 6.15: Inverted Kinloch Formation strata on the west side of the summit area of Sgùrr na Coinnich. Pole *c.* 1m long.

Figure Sleat 6.16: Detail of inverted Kinloch Formation strata on the west side of the summit area of Sgùrr na Coinnich, with cross stratification and erosion surfaces. Coin *c.* 24mm across.

Figure Sleat 6.17: Inverted Kinloch Formation strata on the west side of the summit area of Sgùrr na Coinnich, with cross stratification and erosion surfaces. Coin *c.* 24mm across.

Figure Sleat 6.18: Detail of inverted Kinloch Formation strata on the west side of the summit area of Sgùrr na Coinnich, with cross stratification and erosion surfaces. Coin *c.* 24mm across.

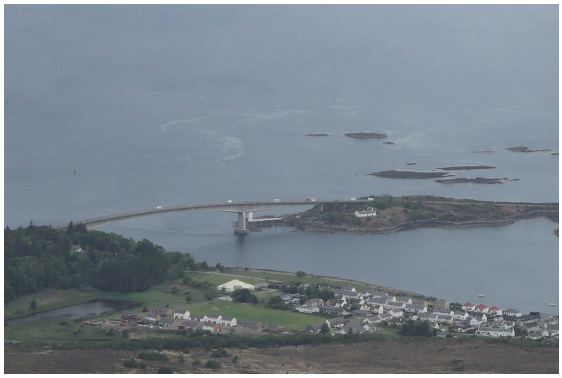


Figure Sleat 6.19: Kyleakin and Skye Bridge from the summit of Sgùrr na Coinnich.

Return to the road.

End of excursion.