

## Cuillin Hills 13:

### An Garbh-choire



*An Garbh-choire, the rough corrie, lives up to its name, choked with boulders in its upper section. The dominant rock-type is peridotite, with incredible textural features, albeit not easy to interpret. The head of the corrie, at Bealach a' Garbh-choire, backs on to Coir' a' Ghrunnda, with spectacular views of the southern Cuillin Hills, from Gars-bheinn to Sgùrr Alasdair, worthy of the effort involved to reach the bealach.*

**Aspects covered:** textural features of the Layered Peridotites; glacial morphology and landforms.

**Route:** [Loch na Cuilce Landing Stage](#) - [Allt a' Chaoich](#) - [Allt Beag \(the Nameless Burn\)](#) - [An Garbh-choire](#) - [Bealach a' Garbh-choire](#) (- return [Loch na Cuilce Landing Stage](#)).

**General comments:** This is a very challenging but rewarding excursion and should be saved for a good weather day. It is difficult to reach An Garbh-choire by foot, especially when time is required to examine the rocks, but access is made considerably more achievable by tourist boats that run out of [Elgol](#) during the Spring, Summer and Autumn months. Timetables vary and need to be checked/confirmed/booked in advance. This is the best, easiest and safest way to access [Loch Coruisk](#) and [An Garbh-choire](#).

Excursion **Cuillin Hills 2** includes the lowest part of [An Garbh-choire](#) and may be more suitable to those who do not relish the more difficult and arduous route up the corrie to [Bealach a' Garbh-choire](#).

[An alternative access on foot, which, given time constraints, would necessitate overnight camping at [Loch na Cuilce Landing Stage](#) is also possible from [Elgol](#) or [Kirkibost \[NG 5451 1719\]](#), both on Strathaird, via [Camasunary Bay \[NG 5131 1876\]](#), crossing the [Abhainn Camas Fhionnairigh](#), and taking the indistinct path on the south side of [Sgùrr na Stri](#) (10km; 4 hours).

Caution needs to be exercised when fording the [Abhainn Camas Fhionnairigh](#). It is tidal (where entering [Camasunary Bay](#)) and, during periods of high tide, can only be crossed further (sometimes much further)

upstream. During periods of high rainfall, even at low tide, the river may be difficult to cross. Conversely, during periods of drought, at low tide, the river can be safely crossed with ease and even without getting wet boots.

With this route, just before reaching [Loch Coruisk](#), [The Bad Step](#) (or Ladies' Step of some old maps) needs to be negotiated with care.

An alternative route is from [Sligachan](#) via [Glen Sligachan](#) and the northern end of [Srath na Crèitheach](#), to reach the [SE end of Druim Hain](#) (8km/3 hours each way) and thence [Loch Coruisk](#).

It is strongly suggested that the logistics of this excursion are considered carefully by reading through the itinerary and consulting relevant topographic maps prior to going into the field.

**Distance:** 7 kilometres (excluding access into and out of the area, see above).

**Time:** 8 hours (but see General comments, above).

It is useful to understand the nature of [The Bad Step](#) and the [Scavaig River](#).



**Figure Cuillin 13.1:** The Bad Step on the east side of Loch nan Leachd. The crack in the rock that is used to traverse the gabbro slab is arrowed. On old maps it is referred to as the Ladies' Step. Trying to pass further up the slope is not advised. The Bad Step is avoided if arriving by a boat.



**Figure Cuillin 13.2:** The Stepping Stones across the Savaig River, close to the inflow from Loch Coruisk. These can be submerged during periods of heavy rainfall and cannot be crossed safely.

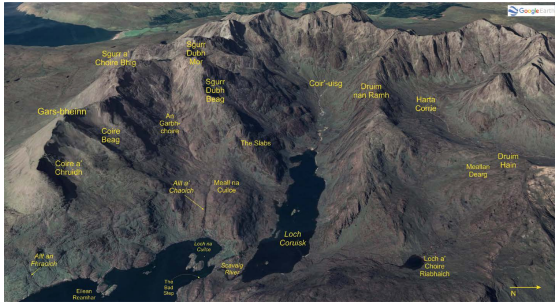


Figure Cuillin 13.3: Annotated oblique Google Earth® image of the Loch Coruisk area.

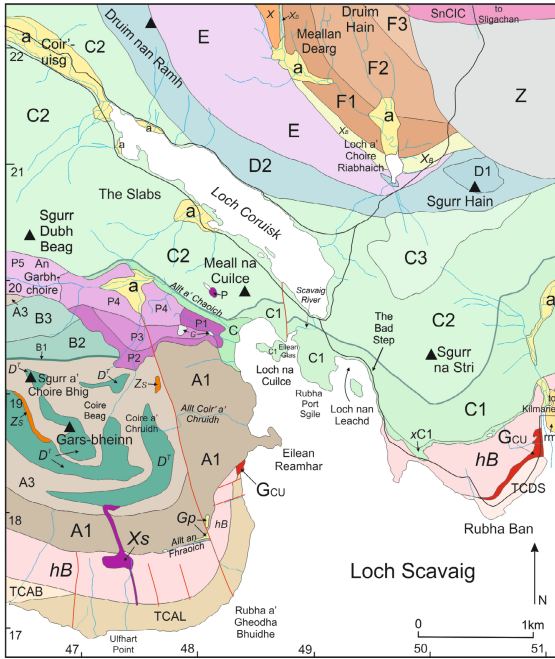


Figure Cuillin 13.4: Summary map and key of the Loch Coruisk area.



Figure Cuillin 13.5: Annotated Google Earth® image of the Loch Coruisk area.

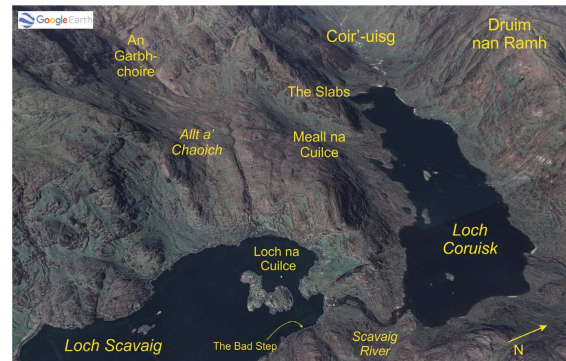
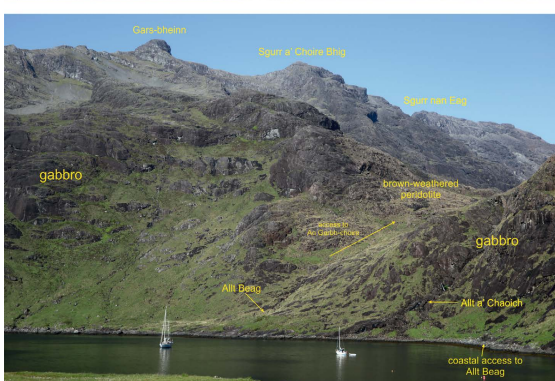


Figure Cuillin 13.6: Annotated oblique Google Earth® images of the Loch Coruisk area.

Assuming arrival by boat at the [Loch na Cuiice Landing Stage](#), walk around the [head of Loch na Cuiice](#) past the Junior Mountaineering Club of Scotland (JMCS) [Coruisk Memorial Hut](#) (locked, not accessible without permission and a key), along the coast between the high- and low-water lines (not possible during some high tides) and the [mouth of the Allt a' Chaioich](#) (Gaelic, the Mad or Impetuous Burn and best crossed near the High-Water Line; also difficult and unsafe during periods of heavy rain). From here, proceed SW along the coast to the southern side of the [Allt Beag](#) (Gaelic, the small burn, but on some maps referred to as the Nameless Burn or is unlabelled).



**Figure Cuillin 13.7:** Loch na Cuilce at the head of Loch Scavaig, with boat landing stage and the Junior Mountaineering Club of Scotland (JMCS) Coruisk Memorial Hut. The hut was built in 1959 by Elgol builder, Lachlan Mackinnon. The island in the foreground, Eilean Glas, is a popular basking place for common and grey seals.



**Figure Cuillin 13.8:** Loch na Cuilce at the head of Loch Scavaig. This view is from near to the landing stage and includes the Allt a' Chaioich and the Allt Beag. Access to the higher ground is also indicated.

These rocks belong to the Layered Peridotites and are dominated by olivine and calcium-rich plagioclase, together with minor chrome-spinel. Clinopyroxene is largely absent. Texturally, they are olivine-rich cumulates, the product of some form of accumulation process, most likely (at least partially) gravitationally assisted, and range from dunite (almost pure olivine rock) through to feldspathic peridotite. The parental magma was most likely of basaltic composition, carrying previously crystallised olivine.

The structurally lowest unit, exposed in the [Allt Beag](#) from c. 50m OD, and higher, is dominated by dunite and contains abundant layers rich in chrome-spinel. Higher structural units, exposed in the upper reaches of the river, above c. 150m OD, contain plagioclase, both cumulus (also formed by some form of accumulation process) and intercumulus (crystallised from magma 'trapped' between the cumulus crystals), and have excellent modal layering (layers which are defined by their mineralogy and different from adjacent layers). Autoliths (cognate xenoliths) of various ultrabasic rock-types are common and typically accentuate the layering.

Heterogeneous breccias comprise plagioclase-dominated blocks in a matrix dominated by olivine, and olivine-dominated blocks in a matrix dominated by plagioclase: block types vary from anorthosite (almost pure plagioclase rock) through to dunite (almost pure olivine rock). Such breccias are most likely to be of intrusive origin and formed by the forceful injection of ultrabasic magma into ultrabasic rocks, the latter consequently disrupted and fragmented.

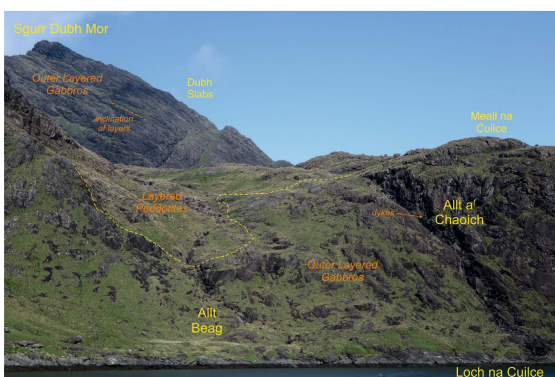
A number of textural varieties of peridotite, as well as structures involving various ultrabasic rocks, are preserved within the Layered Peridotites. For example, within units higher in [An Garbh-choire](#), structures that are approximately hemispherical and range in size from 15 to 200cm across, comprise dendritic intergrowths of poikilitic intercumulus plagioclase and olivine crystals enclosing orientated cumulus olivine: i.e. large late crystallised plagioclase and olivine crystals that enclose earlier-formed orientated olivine crystals. Such structures most likely formed by nucleation and growth within a crystal mush from a hydrous, aluminous, ultrabasic magma. In addition, within units higher up in the sequence in the corrie, along the interface of peridotite (olivine-dominated, with minor plagioclase) and troctolite (olivine-plagioclase) layers, 'fingers' of peridotite penetrate into troctolite. These structures are interpreted as evidence that hot ultrabasic magma invaded pre-existing solid troctolite and eroded it by melting.

From these and other observations it is now generally accepted that thick sequences of layered ultrabasic rocks, such as the Layered Peridotites of the Cuillin Intrusive Centre, were formed through the combined operation of a number of processes including crystal settling, *in situ* crystallisation, and the intrusion of sheets of hot magnesium-rich magma into pre-existing solid material of similar type.

An examination of these rocks is best achieved by way of a traverse up the [Allt Beag](#) to the headwaters of the adjacent (to the north) river, the [Allt a' Chaioich](#) at c. 200m OD, and thence west into [An Garbh-choire](#). True exposure in the corrie is patchy, but abundant features can be recognised in the abundant boulders therein. How far up the corrie one goes is a matter of individual choice, based upon level of interest, ability to navigate (scramble over) the boulders, and desire to gain the view at [Bealach a' Garbh-choire](#).

On the north side of the [Allt Beag](#) at sea level (c. [\[NG 4825 1948\]](#)), Unit 1 rocks of the Outer Layered Bytownite Gabbros crop out. These rocks are plagioclase-olivine-clinopyroxene cumulates, but without the development of good layering. Proceed c. 500m up the north side of the [Allt Beag](#) to [an elevation of 150m OD.](#), to where continuous exposures of the Layered Peridotites may be examined in the immediate vicinity of the burn. *En route* to this elevation note isolated exposures of peridotite on the north side of the burn, together with xenoliths of peridotite (up to 1m across) within the younger Outer Layered Bytownite Gabbros. The peridotites are readily identified by their distinct brownish-orange weathering characteristics (due to the breakdown of olivine, releasing iron) and 'tortoise-shell' fracture pattern.

The main outcrop of the Layered Peridotites lies to the south of the [Allt Beag](#), which flows along the southern side of the rock basin formed mainly by the [upper tributaries of the Allt a' Chaoich](#). Proceed upstream on the south bank of the [Allt Beag](#) through unlayered and weakly laminated dunites. Follow the [Allt Beag](#) to where it dies out. The area to the south consists of continuous exposures of fluxioned/layered peridotite and bytownite troctolite that form the south and SW side of the rock basin draining from the [Coire' a' Chruidh](#) and [Coire Beag](#).



**Figure Cuillin 13.9:** The Allt Beag and the Allt a' Chaoich, where they flow into Loch na Cuilce. The approximate eastern extent of the Layered Peridotites is indicated.



**Figure Cuillin 13.10:** Dunite within the lowest unit, P1, of the Layered Peridotites, adjacent to the Allt Beag. Pole c. 1m long.



**Figure Cuillin 13.11:** Dunite within the lowest unit, P1, of the Layered Peridotites, adjacent to the Allt Beag. Coin c. 24mm across.



**Figure Cuillin 13.12:** Typical laminated peridotite (P2) of the Layered Peridotites in the vicinity of the southern tributaries of the Allt a' Chaoich. Pole c. 1m long.



**Figure Cuillin 13.13:** Typical laminated peridotite (P2) of the Layered Peridotites in the vicinity of the southern tributaries of the Allt a' Chaoich. Pole c. 1m long.

From these rock-faces proceed north to a [knoll \(193m OD\)](#) in the confluence area of the [upper tributaries of the Allt a' Chaoich](#). This knoll and much of the surrounding area consists of brecciated peridotite and bytownite troctolite (P4). Formation of these breccias involved disturbance and fragmentation of previously formed material (P1, P2 and P3; commonly layered) with 'younger' material (magma(s)), typically orange-weathering peridotite, now acting as the matrix of the breccias. Abundant glacial erratics offer excellent examples of these breccias.



**Figure Cuillin 13.14:** Layered Peridotites in the area south of the tributaries of the Allt a' Chaoich. View also shows (in the distance) the narrow nature of An Garbh-choire, in part determined by the contrasting easily-eroded Layered Peridotites and more resistant to erosion adjacent gabbros.



**Figure Cuillin 13.15:** The southern ridge of the Cuillin Hills, including the summits Gars-bheinn and Sgurr a' Chòire Bhig. View is towards the south from the area south of the tributaries of the Allt a' Chaoich.



**Figure Cuillin 13.16:** Brecciated peridotites in the area south of the tributaries of the Allt a' Chaoich.



**Figure Cuillin 13.17:** Typical brecciated peridotite, with blocks of dunite, layered feldspathic peridotite and layered bytownite troctolite, with abundant anastomosing veins of peridotite and feldspathic peridotite, all set in a matrix of peridotite. An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.20:** Typical brecciated peridotite, with blocks of dunite, layered feldspathic peridotite and layered bytownite troctolite, with abundant anastomosing veins of peridotite and feldspathic peridotite, all set in a matrix of peridotite. An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.18:** Typical brecciated peridotite, with blocks of dunite, layered feldspathic peridotite and layered bytownite troctolite, with abundant anastomosing veins of peridotite and feldspathic peridotite, all set in a matrix of peridotite. An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.21:** Typical brecciated peridotite, with blocks of dunite, layered feldspathic peridotite and layered bytownite troctolite, with abundant anastomosing veins of peridotite and feldspathic peridotite, all set in a matrix of peridotite. An Garbh-choire. Coin c. 24mm across.



**Figure Cuillin 13.19:** Typical brecciated peridotite, with blocks of dunite, layered feldspathic peridotite and layered bytownite troctolite, with abundant anastomosing veins of peridotite and feldspathic peridotite, all set in a matrix of peridotite. An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.22:** Contrasting pale, laminated feldspathic peridotite and dark, unlayered dunite, An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.23:** Typical pale, laminated feldspathic peridotite, bytownite troctolite and dark, layered dunite. Note irregular boundary between the contrasting lithologies, suggesting some form of reaction along the interface. An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.26:** Heterogeneous layered feldspathic peridotite. An Garbh-choire. Pole c. 1m long.



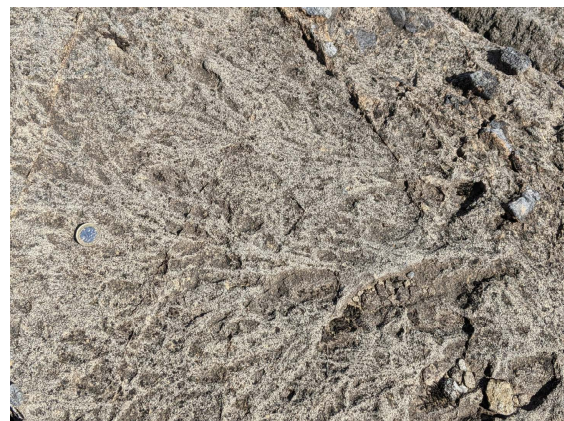
**Figure Cuillin 13.24:** Typical pale feldspathic peridotite and dark dunite. Note irregular boundary between the contrasting lithologies, suggesting some form of reaction along the interface. An Garbh-choire. Coin c. 24mm across.



**Figure Cuillin 13.27:** Typical brecciated peridotite, with blocks of dunite, layered feldspathic peridotite and layered bytownite troctolite, with abundant anastomosing veins of peridotite and feldspathic peridotite, all set in a matrix of peridotite. An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.25:** Heterogeneous layered feldspathic peridotite. An Garbh-choire. Pole c. 1m long.



**Figure Cuillin 13.28:** Dendritic intergrowths of poikilitic intercumulus plagioclase and olivine crystals enclosing orientated cumulus olivine: large late crystallised plagioclase and olivine crystals that enclose earlier-formed orientated olivine crystals. Coin c. 24mm across.



**Figure Cuillin 13.29:** Dendritic intergrowths of poikilitic intercumulus plagioclase and olivine crystals enclosing orientated cumulus olivine: large late crystallised plagioclase and olivine crystals that enclose earlier-formed orientated olivine crystals. Coin c. 24mm across.



**Figure Cuillin 13.30:** Dendritic intergrowths of poikilitic intercumulus plagioclase and olivine crystals enclosing orientated cumulus olivine: large late crystallised plagioclase and olivine crystals that enclose earlier-formed orientated olivine crystals. Coin c. 24mm across.



**Figure Cuillin 13.31:** Contact between older Layered Peridotites on lower ground and younger Outer Layered Bytownite Gabbros on the cliff face. View is towards the north in An Garbh-choire. The inclined horizon is commonly referred to as The Slabs (or Dubh Slabs).



**Figure Cuillin 13.32:** Block of gabbro, part of a rockfall on the south side of An Garbh-choire. Note fresh surfaces of the block, with an estimated weight greater than 150 tonnes. Iain Allison for scale.



**Figure Cuillin 13.33:** Fresh surface of gabbro block, with pale plagioclase and dark clinopyroxene. Coin c. 24mm across.





**Figure Cuillin 13.34:** Crater created by fallen block on south side of An Garbh-choire. Iain Allison for scale.



**Figure Cuillin 13.35:** Caisteal a' Garbh-choire from An Garbh-choire. The low ground on the left (south) is Bealach a' Garbh-choire. View is towards the west.



**Figure Cuillin 13.36:** Dark feldspathic peridotite (olivine dominated rock, with some plagioclase) with randomly distributed blocks of pale troctolite (olivine-plagioclase rock). Pole c. 1m long.



**Figure Cuillin 13.37:** View towards the east, down An Garbh-choire, from Bealach a' Garbh-choire. Place names of interest indicated.



**Figure Cuillin 13.38:** View towards the SE along the ridge of the southern Cuillin Hills from Bealach a' Garbh-choire. Place names of interest indicated.



**Figure Cuillin 13.39:** Loch Coir' a' Ghrunnda from Bealach a' Garbh-choire. This tarn has developed within the more easily eroded Layered Peridotites. Loch is c. 200m across. View is towards the NW.

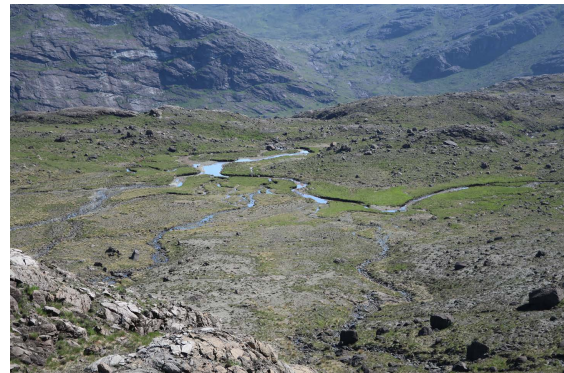


**Figure Cuillin 13.40:** Sgùrr Alasdair from Bealach a' Garbh-choire. Points of interest indicated. View is towards the NW. People on horizon for scale.



**Figure Cuillin 13.41:** South face of Sgùrr Alasdair from Bealach a' Garbh-choire illustrating the heterogeneous and complex character of the dolerite sheets which form significant parts of the Cuillin ridge. View is towards the NW. People on horizon for scale.

Return down [An Garbh-choire](#) towards the the [upper, meandering tributaries of the Allt a' Choich](#). From here, there is a **choice of route** back to Loch na Cuilce: either by retracing the route down the [Allt Beag](#) and along the shore (tide dependent) to [Loch na Cuilce Landing Stage](#) -, **OR**, down the valley SE of [The Slabs](#), which provides a safe route down to the [SW shore of Loch Coruisk](#). *En route*, note the excellent exposures of xenolithic Outer Layered Bytownite Gabbro forming the [SE faces of The Slabs](#).



**Figure Cuillin 13.42:** Tributaries of the Allt a' Choich. View is towards the ENE from An Garbh-choire.



**Figure Cuillin 13.43:** The Sgùrr Dubh Ridge and The Slabs from the NE side of Loch Coruisk. The boulder-strewn valley to the SE (left) provides an easy route to the shore of Loch Coruisk.



**Figure Cuillin 13.44:** Typical xenolithic Outer Layered Bytownite Gabbros on the SE face of The Slabs. Vertical bands are superficial and are due to rainfall.

Continue along [the path on the SW side of Loch Coruisk](#) to the [SE end of the loch](#). Note the glacial striae, common on the ice-moulded ('whale back') surfaces nearby.



**Figure Cuillin 13.45:** Glacially-sculpted Outer Layered Bytownite Gabbro on the south side of Loch Coruisk. This type of feature is commonly referred to as a roche moutonnée or whale back. Note glacial striae (linear scratch marks), oriented parallel to the long axis of the roche moutonnée.

The view NW along the axis of [Loch Coruisk](#) is of a classic glacially-scoured basin, with steep crags to the NE and SW. The loch has a reported depth of 38m below sea-level.



**Figure Cuillin 13.46:** Loch Coruisk from the summit of Sgùrr na Stri. View is towards the NW.

Continue along the [west side of the Scavaig River](#) towards the [Loch na Cuilce Landing Stage](#). Note the superb glacial striae on the [vertical rock face](#) east of the [Coruisk Memorial Hut](#).



**Figure Cuillin 13.47:** Glacial striae on vertical surface of Outer Layered Bytownite Gabbros east of the Coruisk Memorial Hut.

Return to [Elgol](#) by tourist boat (by previous arrangement) or, alternatively, return to [Elgol](#) or [Kirkibost](#) or [Sligachan](#) if any of these were the starting point for the excursion (see above).

The tourist boat is, however, by far, the most practical and sensible access route for this excursion.

End of excursion.