

**Raised beaches** As the land rose, former wave-cut platforms and their beaches were raised above the reach of the waves. Raised beaches are characteristic of the west coast of Scotland (Figure 6.51). They are recognised by a line of degraded cliffs fronted by what was originally a wave-cut platform. Within the old cliff-line may be relict landforms such as wave-cut

notches, caves, arches and stacks (Figure 6.52). The presence of such features indicates that isostatic uplift could not have been constant. It has been estimated that it would have taken an unchanging sea-level up to 2000 years to cut each wave-cut platform. (This evidence has been used to show that the climate did not ameliorate steadily following the ice age.)

## Places 23 Arran: raised beaches

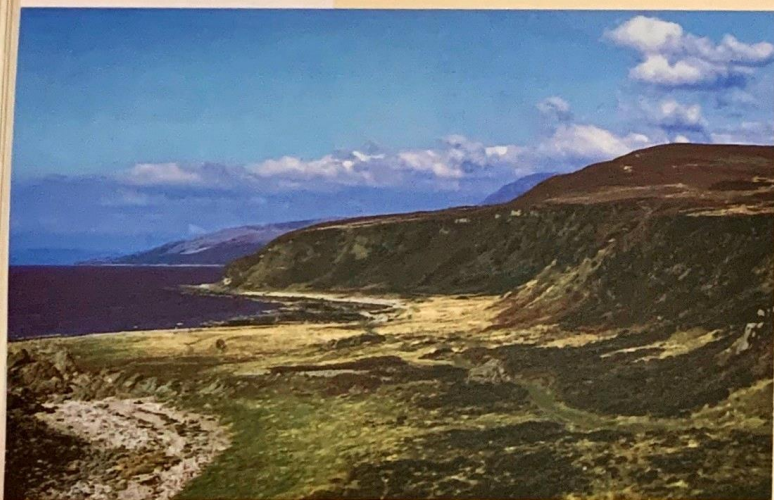
The Isle of Arran is one of many places in western Scotland where raised beaches are clearly visible. Early workers in the field claimed that there were three levels of raised beach on the west coast of Scotland, found at 25, 50 and 100 feet above the present sea-level. These are now referred to as the 8 m, 15 m and 30 m raised beaches. However, this description is now considered too simplistic, since it has been accepted that places nearest to the centre of the ice depression have risen the most and that the amount of uplift decreases with distance from that point. Thus, for example, the much-quoted '8 m raised beach' on Arran in fact

lies at heights of 4–6 m. Where the raised beach is extensive, there is a considerable difference in height between the old cliff on its landward side and the more recent cliff to the seaward side, e.g. the 30 m beach in south-east Arran rises from 24 to 38 m.

It is now more acceptable to estimate the time at which a raised beach was formed by carbon-dating seashells found in former beach deposits, rather than by referring solely to its height above sea-level (i.e. to indicate a 'late glacial raised beach' rather than a '100 ft/30 m beach'). Figure 6.53 is a labelled transect, based on fieldwork, showing the two raised beaches in western Arran.

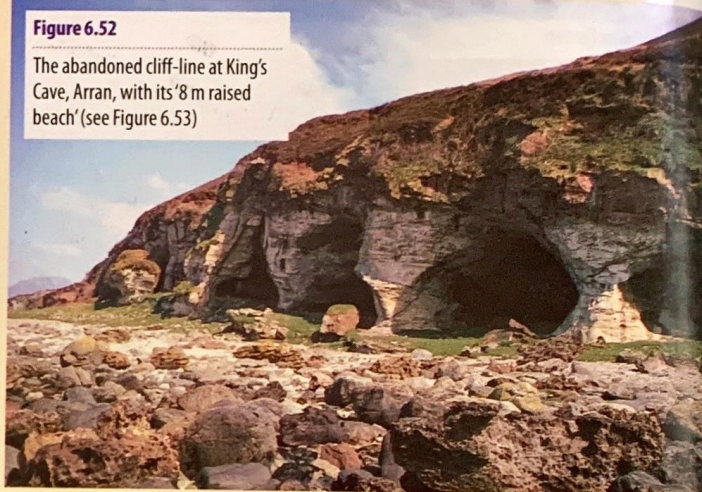
**Figure 6.51**

Raised beaches on the Isle of Arran: the lower one relates to the younger '8 m beach'; the upper one to the older '30 m beach'



**Figure 6.52**

The abandoned cliff-line at King's Cave, Arran, with its '8 m raised beach' (see Figure 6.53)



**Figure 6.53**

Diagrammatic transect across raised beaches of Arran

