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## THE KAIWAKA SCARP, KAPITI COAST

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An examination of vertical aerial photographs of the Kapiti district revealed the existence of a sharp linear 5 to 10 metre high slope, the Kaiwaka Scarp\*. It has a south-eastwards trend sub parallel to, but 1.5 km inland from, the present coastline between the Waikanae River (near Kauri Road) and Mazengarb Road (seaward side of Paraparaumu College). It then turns through a 90 degree arc to trend north-westwards directly towards the coast just south of Donovan Road. The scarp ends near Kenakena School (~ 0.6 km landward of the present day beach) where it is truncated by a younger coastline parallel feature, the Ngarara Lineation\*.

The relatively high standing but bumpy land on the inland side of the Kaiwaka Scarp is covered by an extensive set of fixed dunes and swales, the Rauoterangi Foredunes\*. They formed on a prograding shoreline in the lea of Kapiti Island. Until the arrival of the bulldozer, they survived essentially intact due to the wind protection provided by the island.

On the seaward side of the scarp are the Mazengarb lowlands, a sand plain dominated landscape that includes several "infilling" wind-drifted sand dune ribbons. The oldest (easternmost) of these is in part plastered against the scarp. Near the Waikanae River these dune ribbons provide the high ground on which Otaihanga is centred.

For much of its length the scarp has a trend similar to the present day coastline, the Ngarara Lineation, and the abandoned post glacial sea cliff. Furthermore it only turns seaward in the lea of Kapiti Island. Thus by analogy it is highly likely that it was cut by wave action.

Just why the Kapiti Coast was so vulnerable to erosion when the Kaiwaka Scarp was cut is not known. Nor is the precise age of the scarp known. It is obviously much younger than the post-glacial cliff but somewhat older than the Ngarara lineation. This indicates an age within the 3000 to 3500 years BP range, i.e. about 1000 to 1500 BC.

The Rauoterangi Foredunes at Paraparaumu Beach Golf Course have a noticeably wider ridge to ridge spacing than those further inland. This plus their seaward geographic position makes it very likely that they formed at the apex of the Rauoterangi Foreland. This assessment has important planning implications under the Resource Management Act since it indicates a long term progradation rate for the present foreland that is, at Kenakena, less than 10% of that determined from 63 to 88 years of land subdivision in this area (Gibb, 1978, items 089 & 090).

\* I have named the scarp after the disused but seemingly appropriate name of a locality on the scarp adjacent to Otaihanga Road, the foredunes after the sea way between Kapiti Island and the mainland, and the lineation after the (coastline following) stream south of Peka Peka (Carkeek, 1965). The lineation occurs at the seaward edge of a high standing pumaceous dune ridge and has been mapped as the Taupo Pumice shoreline (Fleming, 1961; Gibb, 1978).

### References

- Carkeek, W C 1965. The Kapiti Coast. Maori History and Place Names. AH & AW Reed, Wellington, 187 pp.
- Fleming, C A 1961. The genesis of Horowhenua. *Levin & Otaki Weekly News, Christmas Supplement*, p.7 & 8.
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