

*Protea* spp.

*Sequoiadendron giganteum*

*Syagrus romanzoffianum*

*Ulmus procera*

#### Bibliography & other reading

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## New ocean at Whatipu

Andrew Pegman

Whatipu Beach, North Manukau Harbour, Auckland, has an interesting history of progradation, or extension of the coast in a seaward direction. Although extensive sand areas are now present, in the mid-nineteenth century and again in the 1930's no beach was present at all. Subsequently the beach has steadily prograded and natural vegetation succession has occurred, until the sand reached its greatest known width of more than 1 km in the 1980s (Pegman & Rapson 2005; NZAM 1987).

In 2001 I reported that considerable coastal erosion had taken place with loss of beach area (Pegman 2001; NZAM 2000) and erosion of the *Spinifex/Desmoschoenus* foredunes. This was probably due to decreased sediment supply to the area and/or increased transportation of substrate away by sea currents (Williams 1977). The sea was also starting to encroach on the fresh-water dune-slacks landward of the foredunes north of Nine Pin, and as a result the southern Whatipu coastal outline was then at approximately the same limit as the 1949 progradation front (NZAM 1949). I mentioned that it was possible there could be imminent loss (or lagoon formation) of a major portion of the beach because many of the dune-slack and bare sand areas are below mean high-tide level according to survey profiles (Pegman & Rapson 2005).

Many would now know that the entire area of bare beach front sand between Paratutai and Nine Pin has eroded, resulting in new ocean which is now entering older dune vegetation further inlandj (Figure 1). This remarkable change reportedly occurred overnight in

July 2005 (Timoti 2005). It is possible that Paratutai may become an island again, and that with further encroachment by the sea, Cutter Rock (a volcanic stack further inland) may be surrounded by ocean once more. Remember, a similar larger beach with extensive sand, vegetation, and lakes at South Manukau Head also disappeared in dramatic fashion, recorded as verbal tradition by Waiuku Maori (Smith 1878).



Whatipu, the white line marks the new coastline.

Fortunately many of the rare wetland plants at Whatipu such as *Eleocharis neozelandica* (AK 282311), *Schoenus nitens* (AK 228445), and *Schoenus concinnus* (AK 228444) reside mostly on the mid to northern Whatipu sands (Cameron & Pegman 1996; pers. obs. 2005) where they are protected for now by active net progradation there.

#### References

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