

Dunelands of the Southwest North Islands



Checking out the sand dunes in Castlecliff - photo courtesy of Katrina Hunt

The annual Conference of the Coastal Restoration Trust of New Zealand took place in Whanganui from March 10 to 12. There were over 100 representatives from throughout the country.

The conference was an interesting mixture of lectures, regional roundups and field trips. These included trips to Castlecliff for the river mouth, North Mole and sand dunes, to Waverley and Waipipi, Whanganui River estuary and to Koitiata Beach.

One of the lectures was on 'Dunelands of the southwest North Island' by Dr Alastair Clement, senior lecturer in physical geography and coastal geomorphologist at Massey University.

The coastal dunelands from Patea south to Paekakariki are the largest in New Zealand at around 950km² in size, 180km in length and with dunes inland as far as 18km from

the current coast. Alastair pointed out that, "They range from cliff top dunes at Patea to coastal planes further south."

The development of the dunes have formed over the past 8,000 years or so thanks to winds funnelled into the South Taranaki Bite. "Most winds in this area are from the west or north west and are strong," he pointed out.

The dunes have also developed because of the shallow coastline but also because of the large amount of sediment and sand brought down by the numerous rivers in the area. "It reaches its max on the Manawatu Coast and declines through to Kapiti, because of the absence of rivers."

Another reason for our dunelands, Alastair said, "Is the sediment that came from the continental shelf as there was a rapid sea level rise about 10,000 years ago."

The resulting soils reflect how long the dunefields have developed. If stabilised longer the more developed the soil is, as is the case in the Foxton area and less so in Waitarere beach. "The beaches are prograding (advancing) in the Rangitikei and Manawatu at a rate of about 5 metres per year." An example is the Waiterere Surf Club now 80 metres back from the beach.

Alastair explained how the cliff dunes at Patea developed. "The onshore winds produced a sand ramp and also deposited sand on the top of the cliff. The ramp degraded away as the sea level rose, leaving the cliff with sand dunes."

He expressed concern about the future of the southern Kapiti coast where the dunes are "highly modified" and the dubious future of the sea walls. Added to the complicated future is the fact that the "whole of the South North Island is actually subsiding."