

**Re: Kapiti Coast District Council Proposed District Plan – COASTAL HAZARDS REPORT Map 17C**

**1. Introduction:**

We are the owners of the most northern property shown in Map 17C. That map shows an irregular curved red hatched area that consumes over half of the land that we own. The hatched area is based on a report prepared for the KCDC by Dr. Roger Shand of Coastal Systems Limited based on theoretical hydrological analysis applied to a 1942 aerial photograph, where he predicts that the future coast line will assume that shape.

We contend that assumption to be illogical and request that this line be reviewed and revised to a continuation of the hatched area parallel to the beach as it does immediately to the south of our property on Map 17C. The Report prepared by Dr. Shand relies on an aerial map in 1942 (APPENDIX F, page 88) but some time between 1942 and 1962 (when we bought the property) the Wairongomai Stream punched through to the sea about half a kilometre south of our property so the assumption that the two streams combine is no longer rational. In 1942 Lake Wairongomai was actually two lakes, one of which was drained and the flow from the Wairongomai Stream much greater than it is now. Actually that stream flow has stopped at the moment and the outlet is silted up.

**2. Supporting rationale:**

- a) Our family has owned the affected property for over 50 years and in the time we have observed the changes to the land forms to the north and to the south of the property. The western coast line that extends from Kapiti to the south to Wanganui to the north is, more or less a continuous straight line. The greater portion of that coast is made of sand that moves to reform itself over millennia (not just a 50 year forecast) under the continuous effects of the strong westerly winds and large waves. The sand hills on our property have grown over the years (partly because we have not allowed the fragile ecology to be damaged by restricting people, particularly motor bikes, from the sand hills) to the extent that several fence lines we have constructed along out from boundary have been buried and still the sand hills have grown. We have also ensured that the bare sand has been replanted. It can be reasonably deduced that with rising sea levels will come rising sand deposits on the dunes and we believe that rather than erode the coast line there will be little if any movement landwards.
- b) On the landward side of the sand hills at our property there is a small dune lake and a low lying flat area. That area extends to the south to the stream that comes from Lake Wairongomai. With rising sea levels will come rising ground water tables over a period of time and the dune lake will increase in size. Many years ago we took levels and found that the small dune lake is slightly above the level of the Wairongomai Stream. The area will flood at certain times of the year and when flooding occurs it drains towards that stream.
- c) Lake Wairongomai is a small, land locked lake that gathers its water from precipitation and also from the ground water that mostly flows form the Tararuas. It is not fed by any river system such as the Otaki River well to the south.

- d) To the north of our property is the small settlement of Waikawa Beach. That settlement has a small stream running through it and, at the moment, its outlet to the sea is over a kilometre north of our property. In the last 50 years that is the farthest south it has ever been. Over time outlets of streams and rivers to the sea migrate in a regular pattern north to south and south to north. The north south movement of a river or stream outlet to the sea has been studied by modelling and mathematical calculation (AU School of Engineering) and is reasonably predictable – it is certainly independent of any rising sea levels. From our long experience, the Waikawa stream will either punch through the sand hills to the north of Waikawa or move north again in the near future. Should the Waikawa Stream punch through the sand hills about a kilometre to the north of Waikawa (as it appears it may have done in the past-see Google Earth) it is not unreasonable to predict that the present stream mouth would silt up and the sand hills grow again.

Should global warming cause the sea levels to rise the sand hills will move in response to the movement of the sea to fill the lower lying areas at the rear of the sand hills and then continue to grow. This process will be gradual and the coast line will move again to a stable state maintaining a more or less straight line as the coast has done for millennia. Generally what appears to happen is that sand dunes along that coast that are higher will erode to fill in the lower areas and the coast will even itself out again. Without a major river to continue to move the sand out to sea the dunes will build up again. Another point is that sand from a river that extends out to the sea bed will be washed back to shore north and south of the river outlet thereby maintaining a uniform seabed form.

#### **Future development:**

It is not our intention to develop our land but it is reasonable for consideration be given to possible planning of the future development of our land. To this end we have prepared a preliminary plan (see below) that extends the coastal development immediately to the north of our property at Reay Mackay Grove. We draw attention to the fact that all future development of our land it is well clear of the sensitive areas of the dune lake and the sand dunes. It is also acknowledged that the suggested position of the road around the dune lake may need may need to be modified should the dune lake level rise.

#### **Conclusion:**

We believe that the analysis undertaken by the Kapiti Coast District Council is flawed and overly conservative. **We request that the hatched area shown on Map 17C be amended to a straight line that continues from the hatched area to the south (a width of about 40-60 metres wide from the high tide line). We accept that it is reasonable that the sand dunes should be recorded as being fragile land forms and protected. This request is not unreasonable as it conforms with Dr Roger D Shand's opinion for a managed 100 year IEPL. We believe Dr. Shand's Report leaves too many unanswered questions and request a more moderate view combined with monitoring over the coming years.**

On behalf of Mrs. G. M. Buckett (Owner)

R.R. Buckett BE (Civil) FIPENZ -PROFESSIONAL ENGINEER

