

This Place

## Quadra Sands

*by John Millen*

In 2002 there was a proposal to build an 'Eco-Rejuvenation' resort on the 63 acre Driftwood Farm adjacent to Gravelly Bay ferry terminal. A consultant, Trec International, was retained to design and promote the resort and make an application to the Local Trust Committee for the required rezoning. There was significant opposition to this proposal among Denman Islanders.

As a member of the Advisory Planning Commission at that time I was among those invited by the consultants to tour the property. First we visited a notable feature of the farm, a perennial spring that constantly flows at the foot of the slopes to the West of the farm fields. The spring was expected to be the main water supply for the resort. Next the consultants led us up some old logging roads to the summit of a rise where they pointed out a flat area where the soil was very sandy. They explained that this was an excellent location for their planned septic disposal field.

I immediately had my suspicions of the nature of this sandy area and its possible connection to the perennial spring. On doing some rough calculations: rainfall x area = potential constant flow I concluded that this sandy area was indeed the probable source aquifer for the spring. Although environmentalists have previously (tongue-in-cheek?) proposed that cities drawing their water supply from a river should locate their intake downstream from their sewage discharge, I had not previously encountered such a proposal!

Conclusion: there is a small deposit of Quadra Sand on the Driftwood Farm property. The Eco-rejuvenation Resort proposal did not proceed.

The larger deposit of Quadra Sands on Denman Island covers much of the Northeast quarter of the Island and provides the eroding sand slopes known as the Komas Bluff. This large sand structure generates springs that run all year round, located at various places along the beach at the foot of the bluff. Water from the Sands also feeds the wetland at the head of Danes Creek, as well as the Railway Grade Marsh both of which are conservation areas, the latter within the Provincial Park.

There are Quadra Sand deposits all around Georgia Strait: Quadra Island, Comox Bluffs, Savary Island, Thormanby Islands, Sidney Island and UBC Bluffs are some of the locations. The sand was deposited, at the time when glaciers dominated the area, by streams bringing sand eroded from the mainland mountains. The Komas Bluff deposit has been dated by carbon-dating wood and peat from it to be from 29,300 to 30,200 years old (+ or – 1300 years). The Quadra Sand deposits at the South of the Strait are younger. The last ice age ended about 15,000 years ago, so the sands appear to have been deposited earlier in that era, perhaps near the front end of the glacier ice as it advanced.

Understanding the history of the Quadra sands is complicated by the rise and fall of sea levels during the ice ages. For instance, 7600 years ago (well after the end of the most recent ice age) the sea level was 13 meters lower than at present. At that time Denman 'Island' was connected to Comox by an extensive sandy plain and sand dunes were built up near Comox by the strong southerly winds.

Deposits of sand, gravel and till around the Georgia Strait that occurred over the years of the Fraser Glaciation (the most recent ice age) are all part of the Quadra formation. In Victoria, gravel pits excavating this material have revealed bones from the Imperial mammoth, horses, bison, mastodon and muskox. While it seems unlikely these mammals would have been caught up in our Quadra sands at Komas Bluffs, it does provide another reason to gaze at the Bluffs, but not to climb on them!

Ref: The Geology of Southern Vancouver Island by Chris Yorath, Harbour Publishing 2000