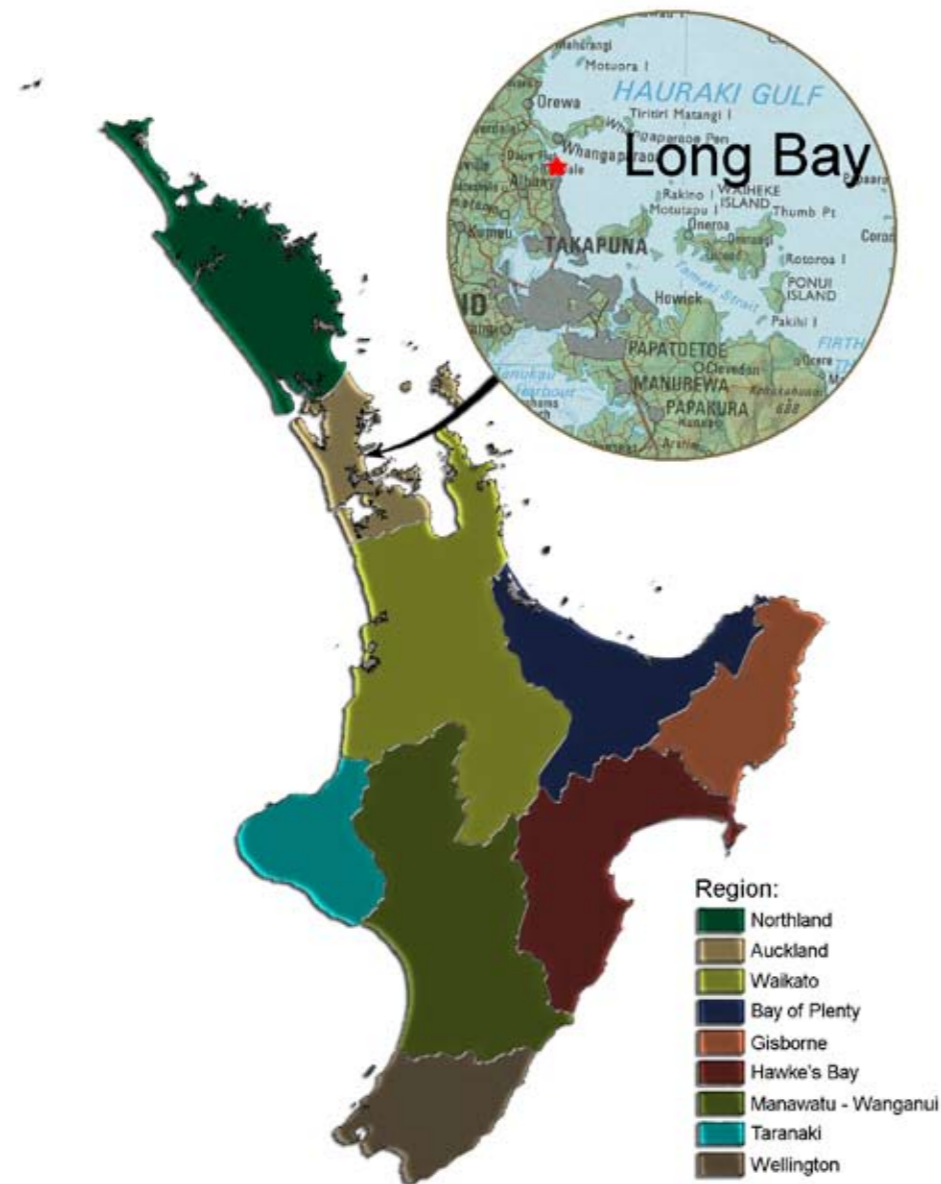


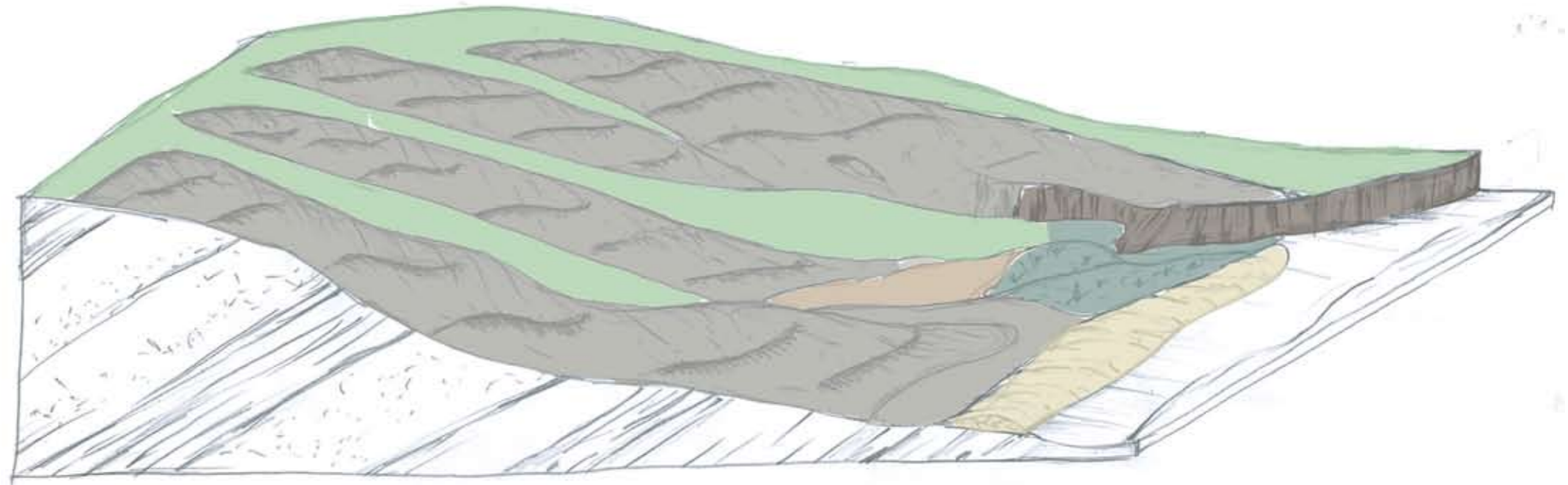
Auckland Region

Long Bay, North Shore City re. Long Bay Structure Plan



Landform Components:

- Fb Rolling higher slopes- ridge lines
- Fh Strongly rolling to moderate steep slopes
- Ec Steep to very steep cliffs
- Lp Peaty alluvial flats
- La Alluvial flats
- Db Dunes and beach deposits

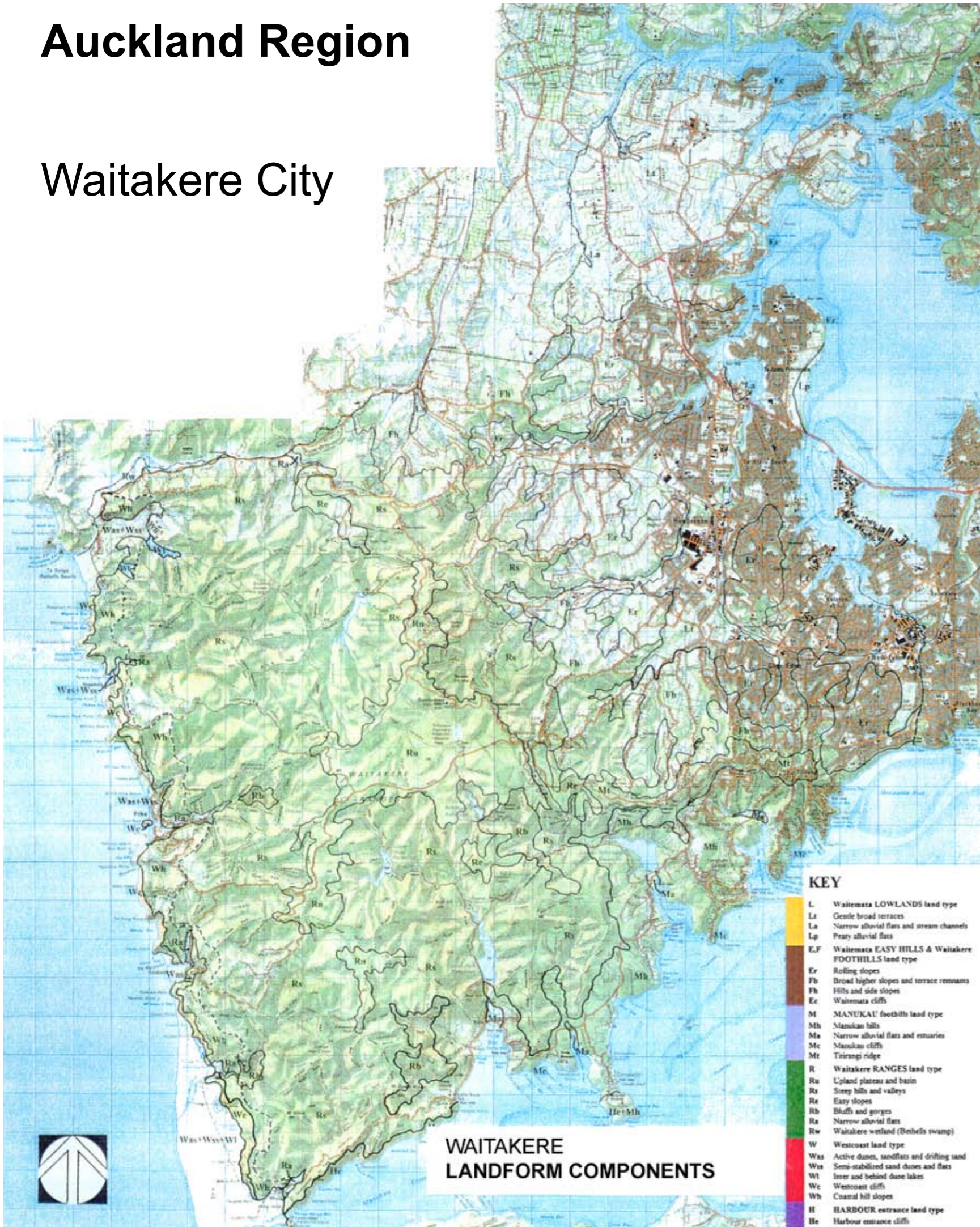


Land Type is as for Waitemata Harbour and Weiti-Karepioro Bay



Auckland Region

Waitakere City

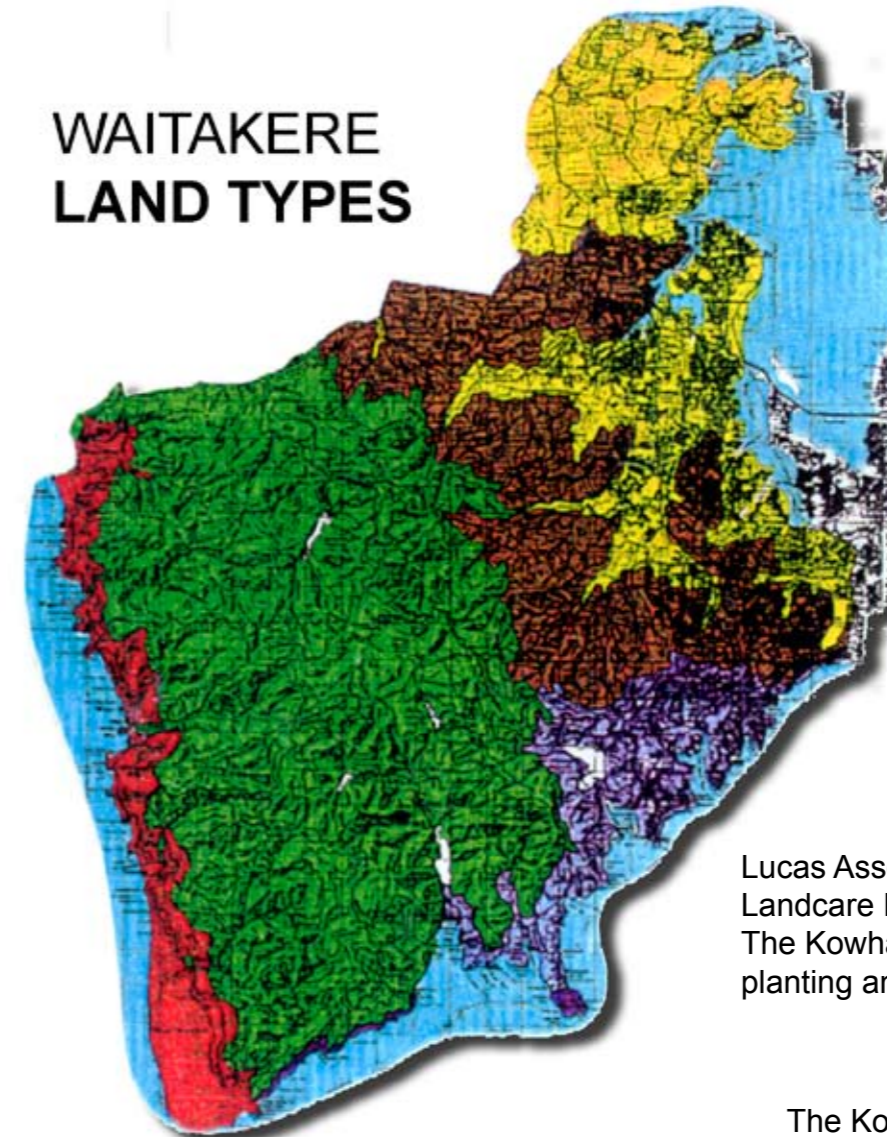


Waitakere

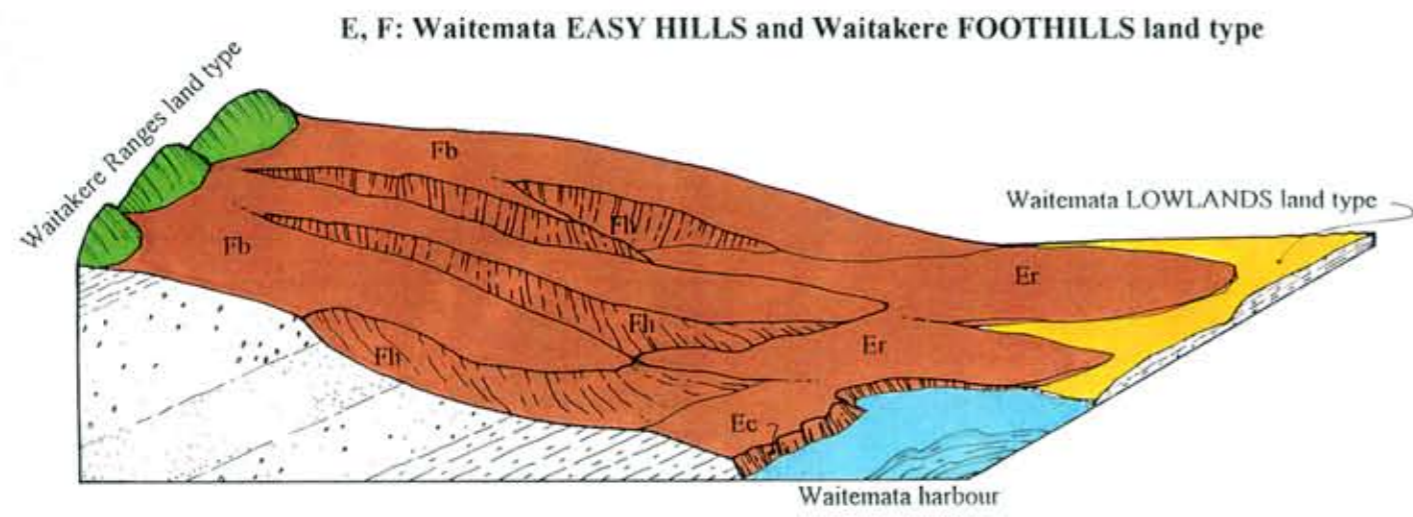
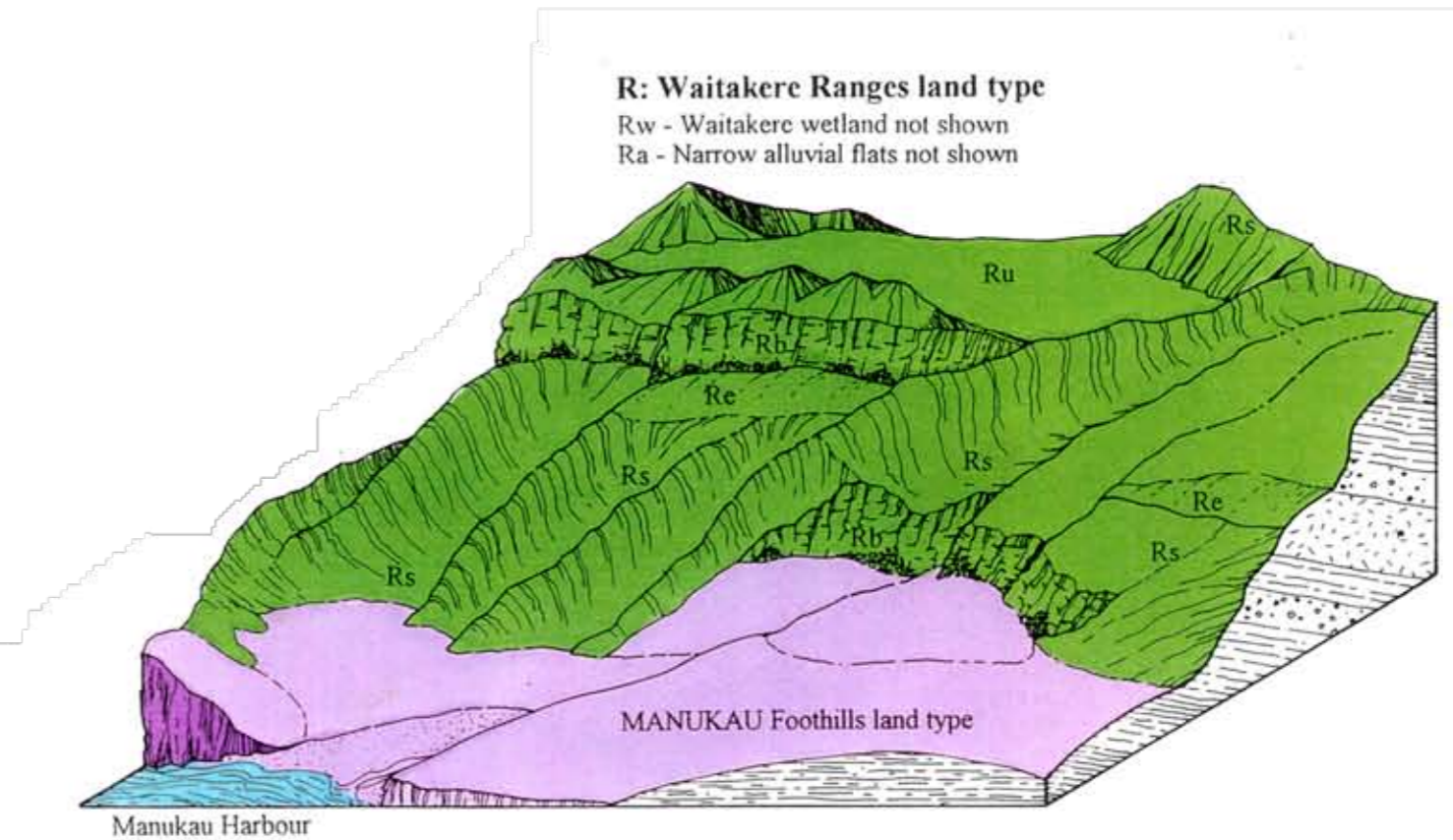
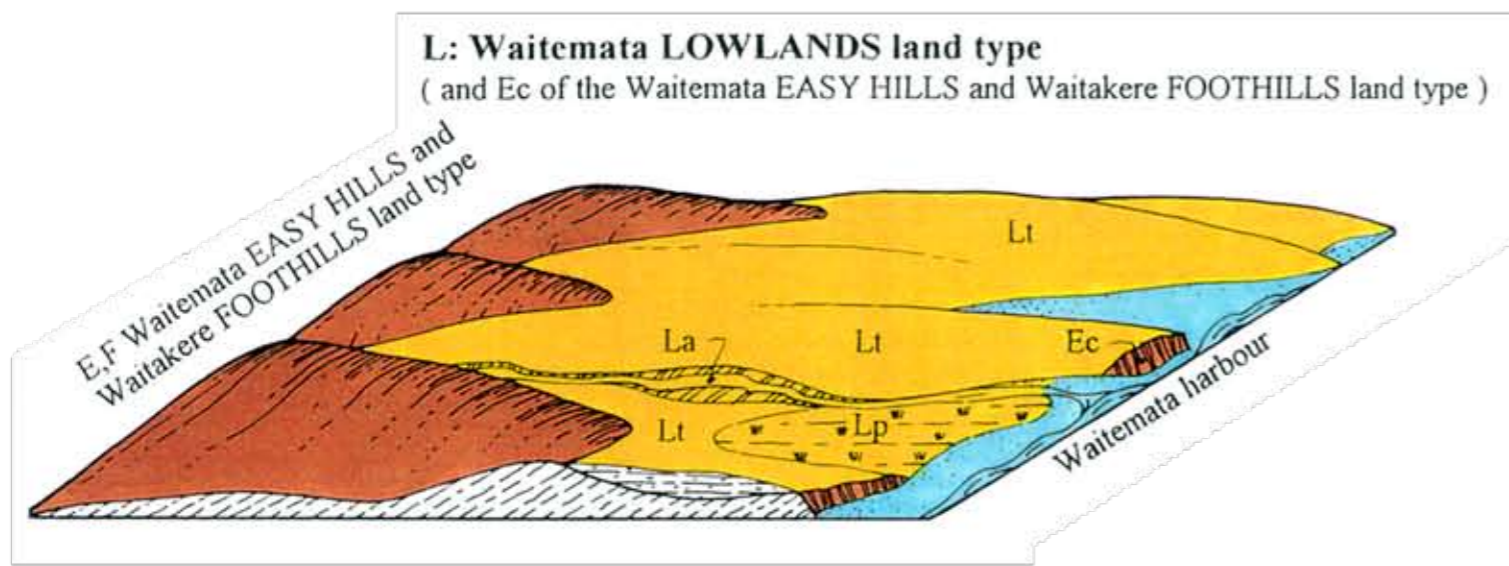


- Region:**
- Northland
 - Auckland
 - Waikato
 - Bay of Plenty
 - Gisborne
 - Hawke's Bay
 - Manawatu - Wanganui
 - Taranaki
 - Wellington

WAITAKERE LAND TYPES

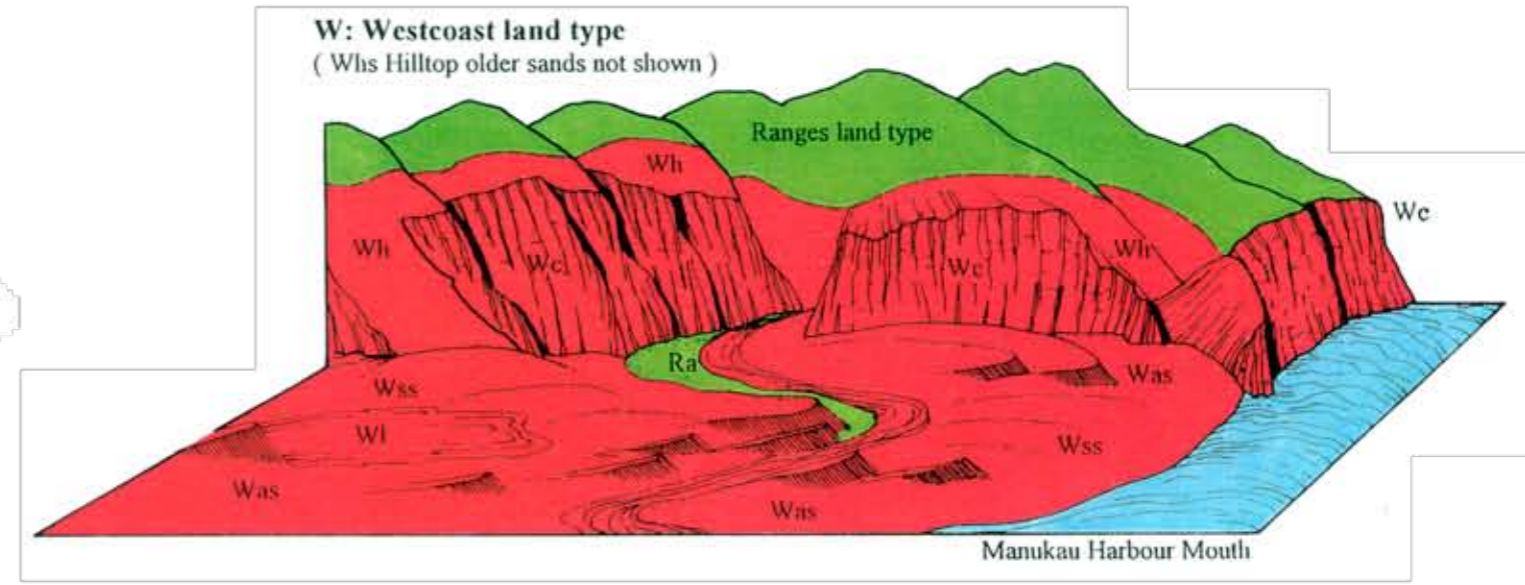
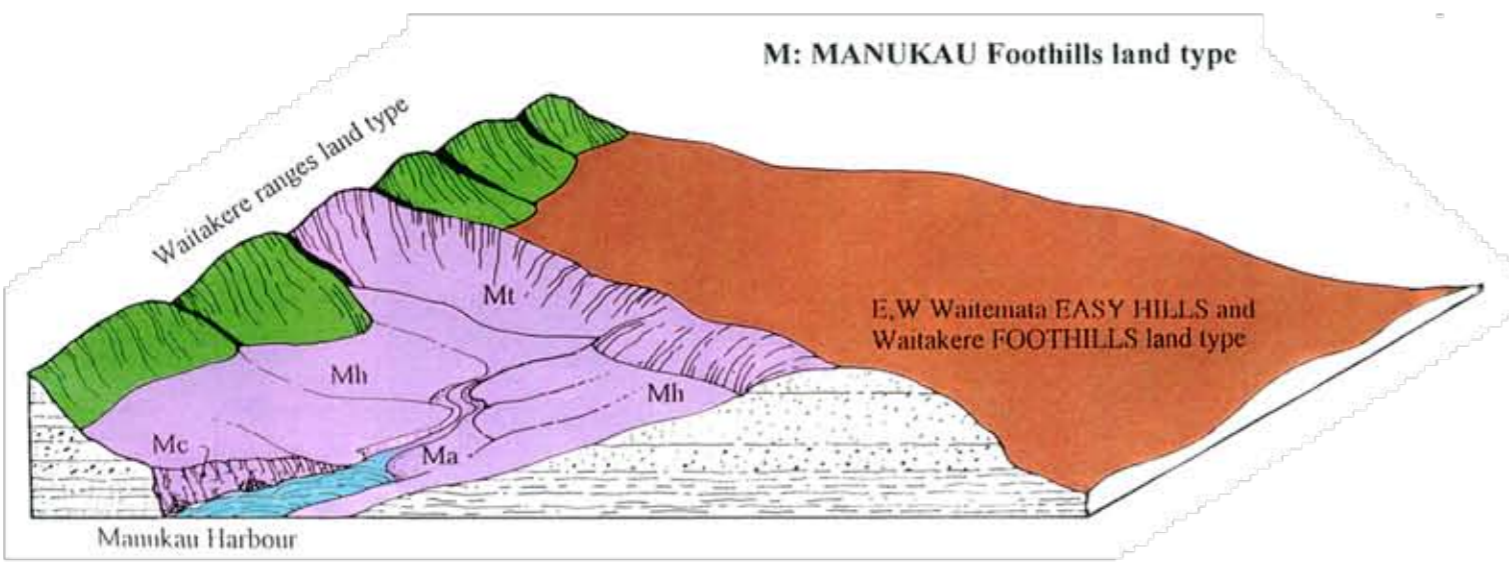


Lucas Associates with Terry Crippen, Landcare Research. 1996. Waitakere The Kowhai Kereru Coast a guide for planting and restoration



M: MANUKAU Foothills land type

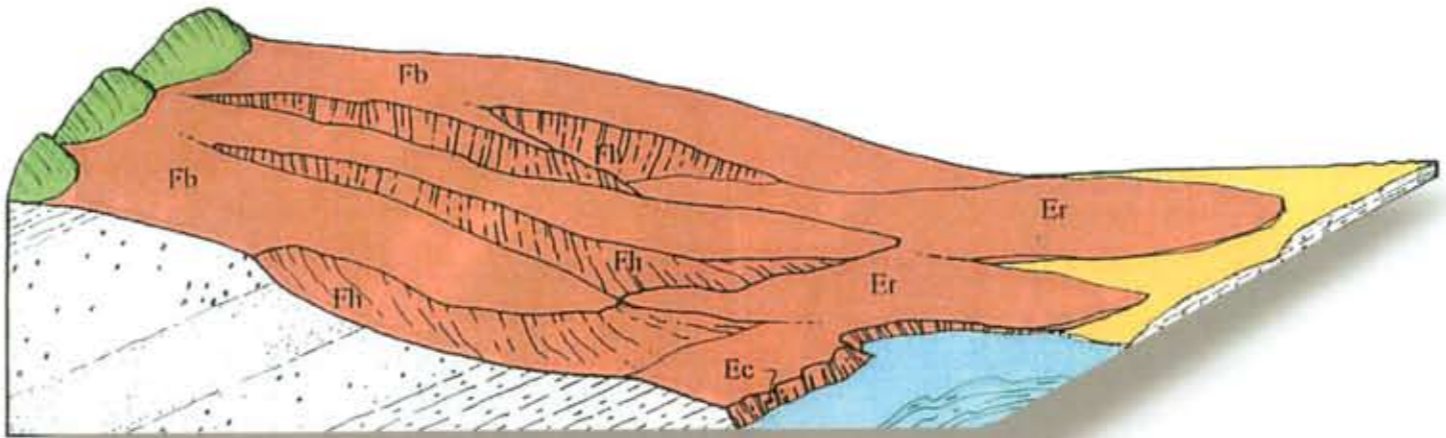
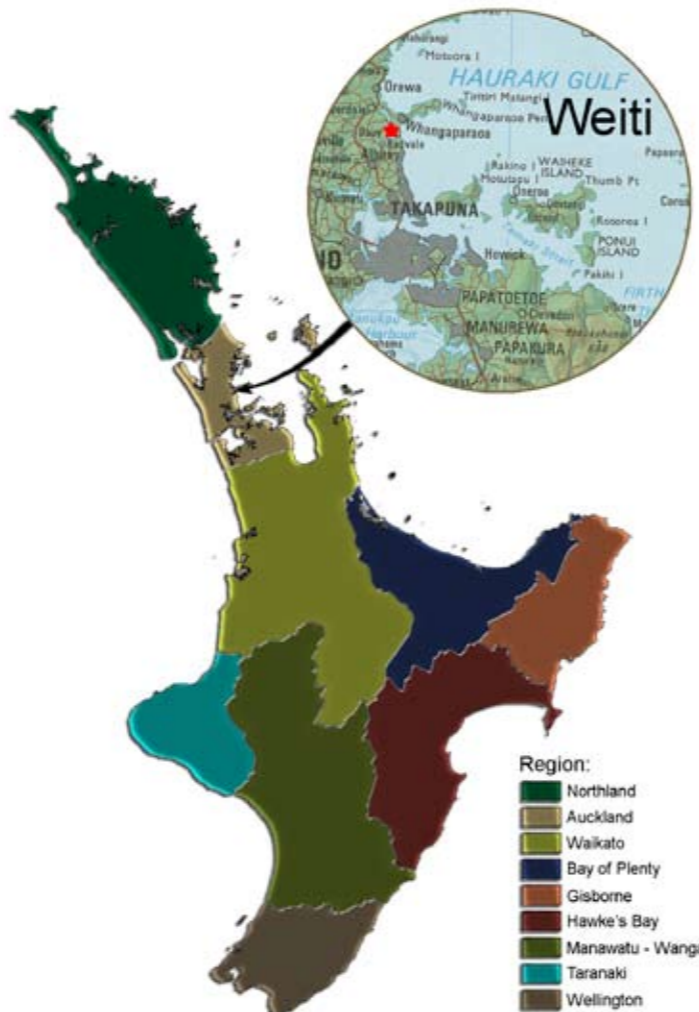
WAITAKERE LAND TYPE BLOCK DIAGRAMS



Auckland Region

Weiti-Karepiro Bay Rodney District

Land Types Eastern Bays Formation



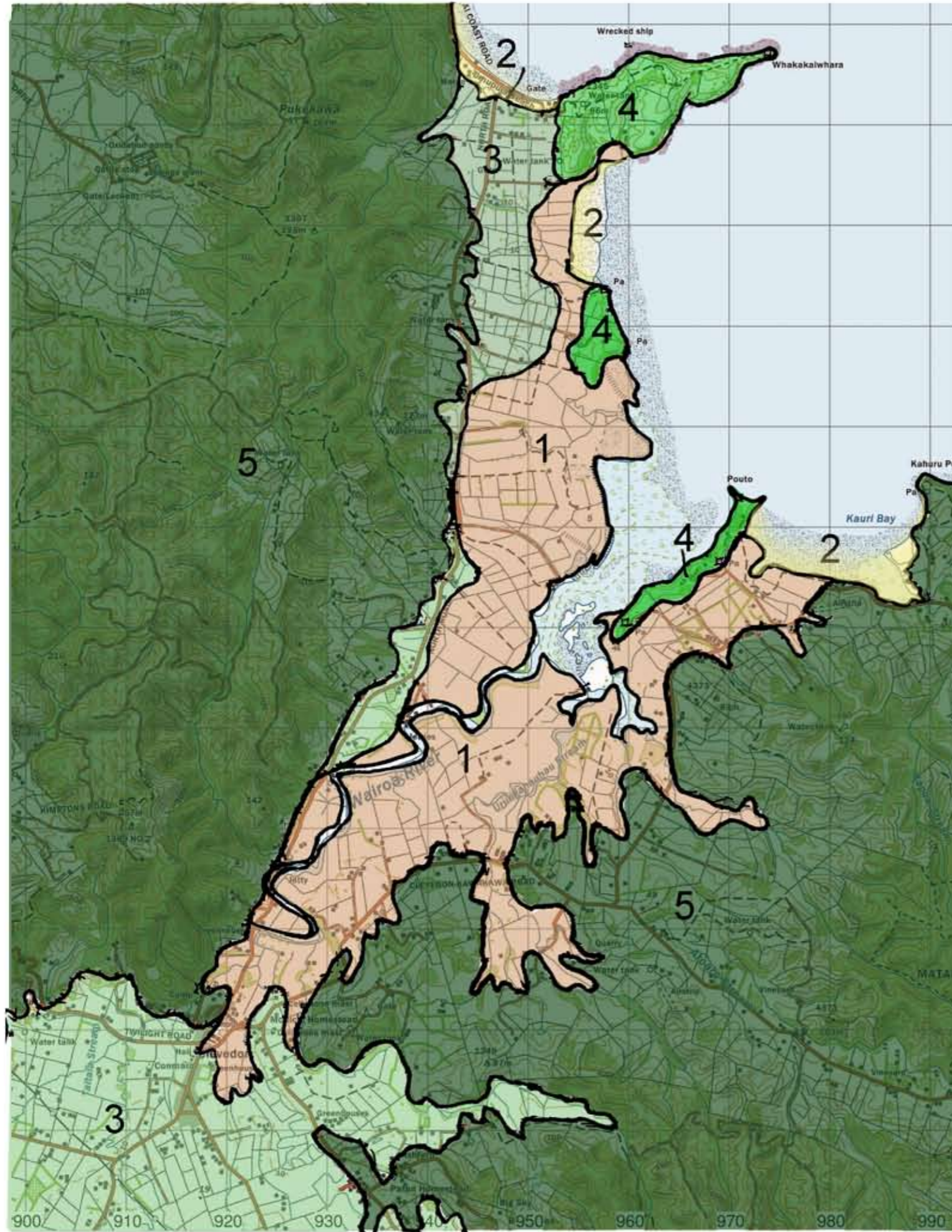
Terrain Map



Rolling to moderately steep land, and associated cliffs, on weathered sedimentary and volcanic rich rocks overlooking the Waitemata Harbour; <150m asl; 1400-1800mm annual rainfall			
Er: Rolling slopes	soft weathered alternating bedded sandstones and mudstones: (East Coast Bay Formation of the Waitemata group, Miocene age)	<100m; rolling to strongly rolling	fine sand and clay loams on clayey weathered Waitemata group rocks; imperfectly to poorly drained and some well to moderately well drained: podzolised yellow-brown earths (Mahurangi, Hukerenui series), and leached yellow-brown earths (Warkworth series), some complexes as found in L1
Fb: Broad higher slopes and 'terrace' remnants	soft weathered alternating sandstones and mudstones, and thick bedded volcanic sandstones: (East Coast Bay and Cornwallis Formations of the Waitemata group, Miocene age). Also erosional and weathered volcanic materials from the adjacent Ranges land type	40-120m; undulating to rolling	clay loams on weathered volcanic or sedimentary materials; well to moderately well drained and some poorly drained soils: leached brown granular loams and clays (Parau, Cornwallis series) and yellow-brown earths (Warkworth series), and podzolized yellow-brown earths (Mahurangi series)
Fh: Hills and side slopes	weathered and partially weathered, alternating sandstones and mudstones, and thick bedded volcanic sandstones: (East Coast Bay and Cornwallis Formations). Also erosional and weathered volcanic materials from the adjacent Ranges land type	40-120m; strongly rolling to moderately steep	clay loams on weathered volcanic or sedimentary materials; well to moderately well drained; and some poorly drained soils: leached brown granular loams and clays (Parau, Cornwallis series) and yellow-brown earths (Warkworth series), and podzolized yellow-brown earths (Mahurangi series), and associated hill soils
Ec: Waitemata cliffs	moderately hard, or soft if partially weathered, alternating bedded sandstone and mudstone: (East Coast Bays formation)	<20m; very steep to precipitous	-

adapted from *Waitakere - The Kowhai Kereru Coast*, Lucas Associates & Huia Conservators, 1996
 10 Planting guide for Waitakere City Council
 Long Bay Reserve development plan - October 2005




Te Wairoa, Clevedon, Manukau City





Land Types

Land Types

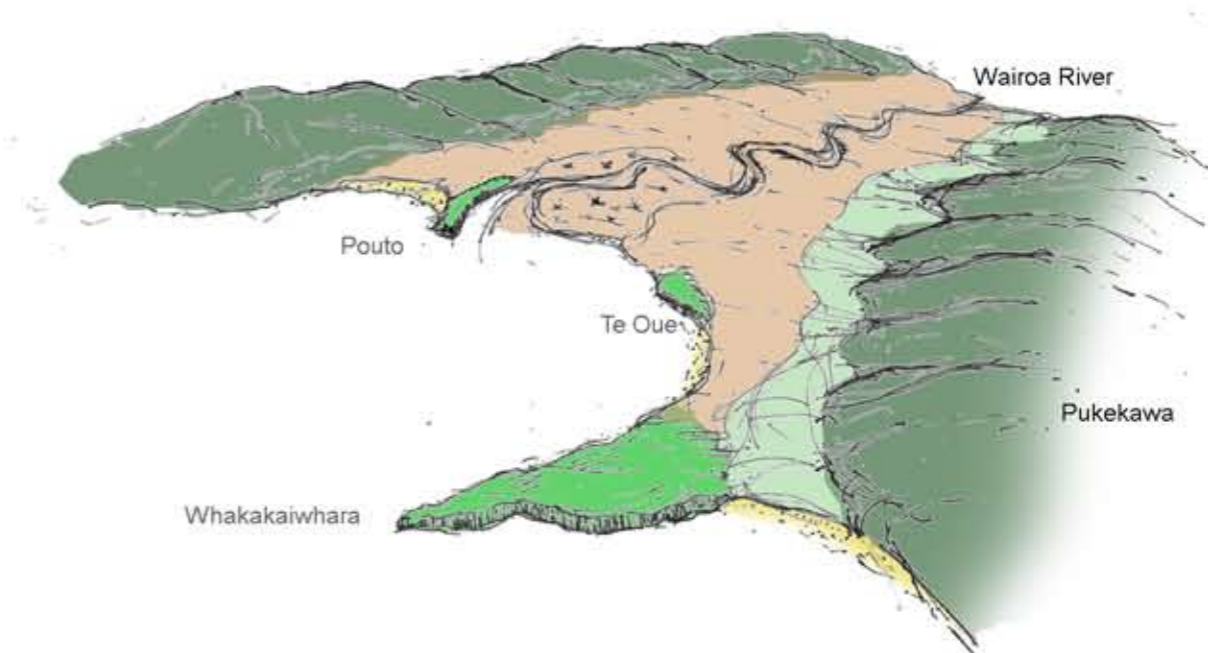
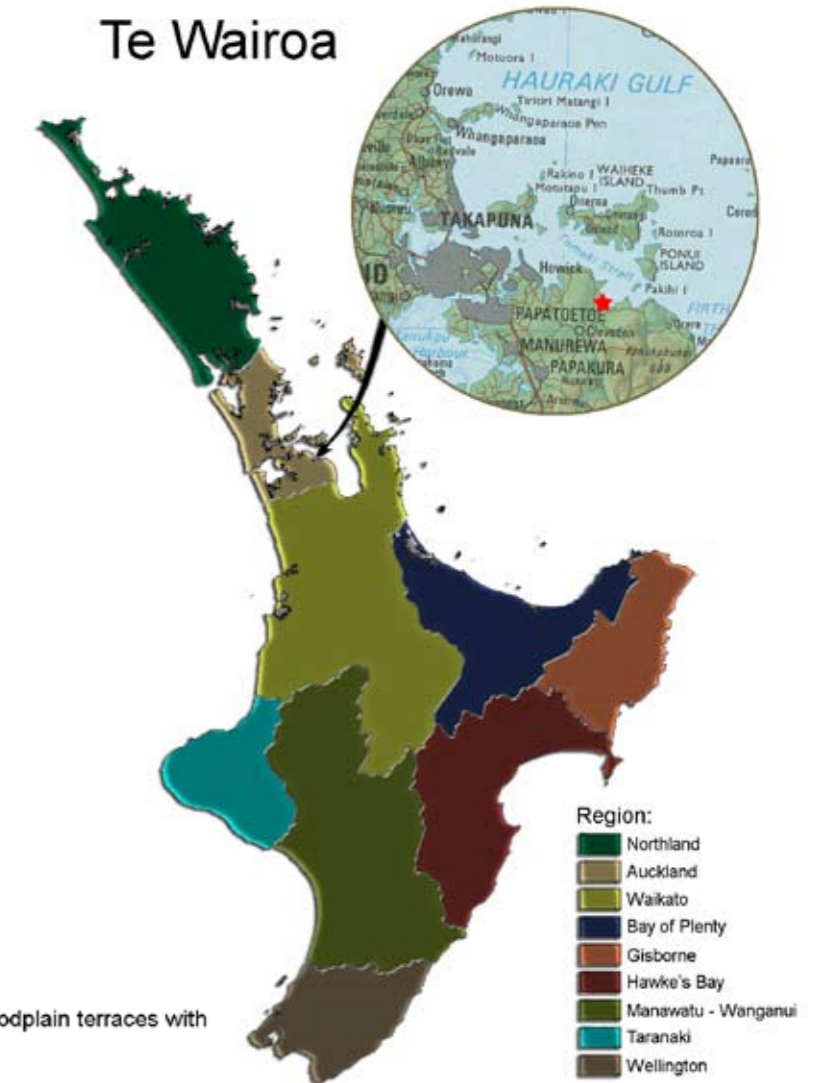
Bottom lands

-  1. Flat to very gently sloping estuarine mud flats and low floodplain terraces with Fluid Sulphuric Gley and/or Fluid-Sulphuric Raw soils.
-  2. Beach deposits of loose sand, gravel and shell
-  3. Low terraces of alluvium, estuarine, swamp and fan deposits

Hill country

-  4. Strongly rolling hill country underlain by Greywacke
-  5. Strongly rolling to moderately steep hill country underlain by Greywacke

Te Wairoa



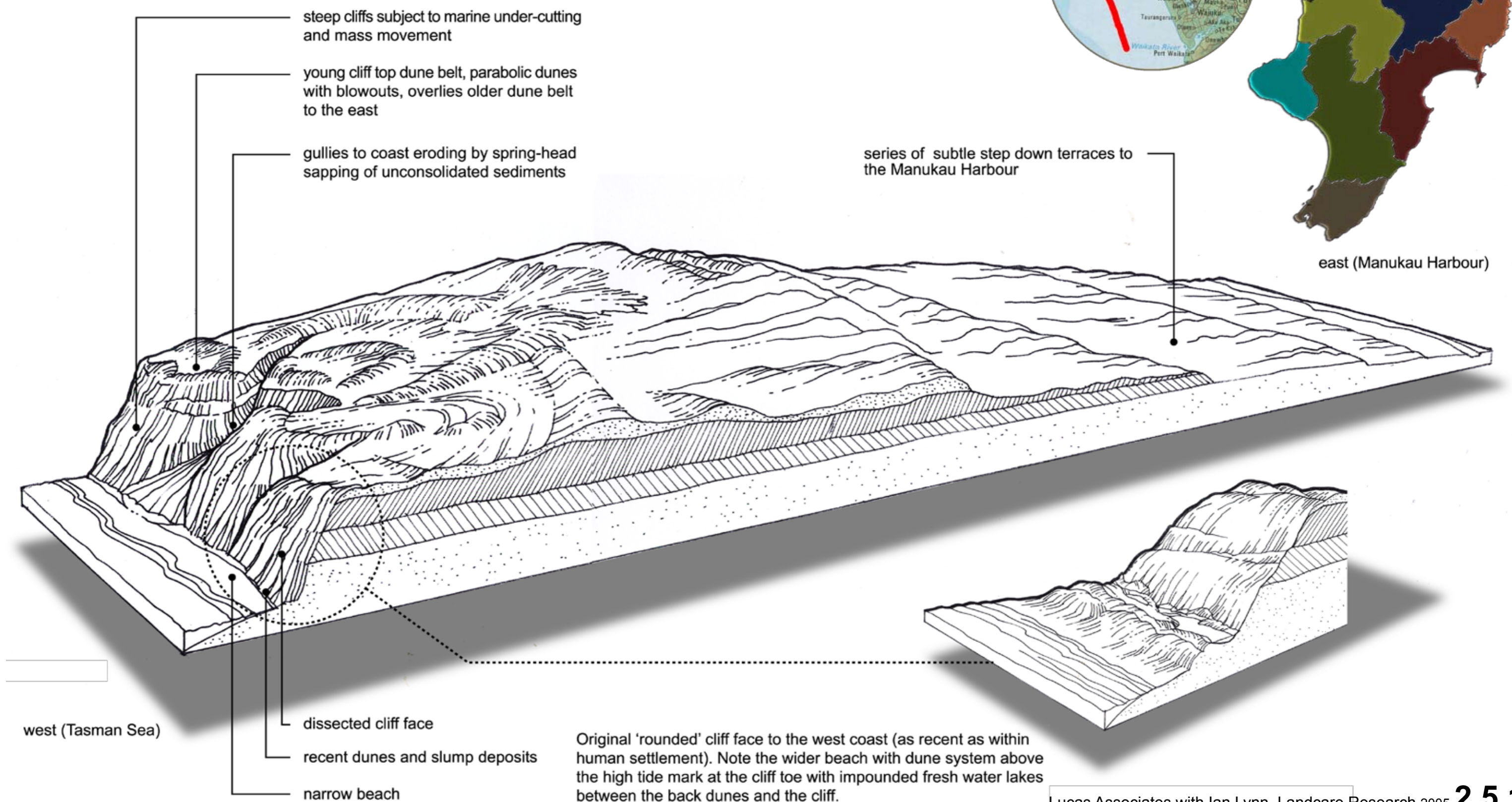


Awhitu Peninsula

Auckland Region

Franklin District

Awhitu Peninsula landforms





photograph by Adrian Jones April 2005

Awhitu Peninsula view north from above Kariotahi Beach and cliffs across the sand peninsula to the Manukau Harbour



photograph by Adrian Jones April 2005



photograph by Adrian Jones April 2005



photograph by Adrian Jones April 2005

Awhitu Peninsula

dissected cliff face, recent dunes and slump deposits, narrow beach landforms