

CAE Cape Elizabeth Land System

A coastal system dominated by coastal sand dunes

Area: 36.3 km²

Landscape: Mostly coastal deposits of carbonate sand with some siliceous sand (Semaphore Sand). The dominant topography is of coastal dunes, many of which are jumbled. There are some flats and depressions. Most depressions are swampy. Calcreted sediments underlie these coastal deposits. Soils overlie calcrete at shallow depth on flats, in some depressions, and on old eroded dunes.

Annual rainfall: 350 – 395 mm average

Main soils: **H1** Carbonate sand (around 85% of area)

Minor soils: **H2** Calcareous siliceous sand (around 8% of area)
B1 Shallow carbonate sand or highly calcareous loamy sand on calcrete (around 6% of area)
B2 Shallow calcareous sandy loam on calcrete (approximately 1% of area)

Main features: The system is almost entirely non arable. Fragile and highly infertile dune sands dominate the system. These sands have a high to extreme wind erosion potential. Most areas are still covered by perennial native vegetation, so nature conservation is the prime concern in this system.

Soil Landscape Unit summary: Cape Elizabeth Land System (CAE)

SLU	% of area	Main features
QHT	0.8	Land dominated by calcreted soils. Main soils: <i>shallow calcareous sandy loam on calcrete</i> B2 possibly with some <i>shallow highly calcareous loamy sand on calcrete</i> B1 . QHT – depressions (slopes <1%).
WFD1 WFE1 WFH1	34.1 0.8 1.3	Carbonate sand and/or calcareous siliceous sand deposits. Main soils: <i>carbonate sand</i> H1a and/or <i>calcareous siliceous sand</i> H2 . Some <i>shallow carbonate sand to highly calcareous loamy sand on calcrete</i> B1 may occur, especially in low dune areas and flats. WFD1 – jumbled coastal dunes. WFE1 – low coastal dunes with some low coastal cliffs. WFH1 – low jumbled dunes and some swampy depressions.
WGD1 WGd1 WGJ WGj1	30.7 0.8 18.8 6.2	Carbonate sand deposits. Main soils: <i>carbonate sand</i> H1a . <i>Shallow carbonate sand to highly calcareous loamy sand on calcrete</i> B1 can occur on flats and some eroded dunes. WGD1 – jumbled coastal dunes. WGd1 – jumbled coastal dunes dominated by bare sands. WGJ – jumbled coastal dunes and some flats. WGj1 – jumbled coastal dunes dominated by bare sands and some flats.
WHK1	4.7	Older and/or eroded carbonate sand deposits. Main soils: <i>carbonate sand</i> H1a . And <i>shallow carbonate sand to highly calcareous loamy sand on calcrete</i> B1 . WHK1 – low jumbled coastal dunes with some flats.
WLu1	1.0	Coastal deposits dominated by flats composed of shell grit and carbonate sand. Main soils: <i>shell grit carbonate sand</i> H1b grading to <i>carbonate sand</i> H1a . And possibly some <i>shallow carbonate sand</i> B1 . WLu1 – flats with some low coastal dunes and some swampy depressions.



WN-	0.3	Saline coastal depressions/flats. Main soils: <i>saline soil N2</i>
Ybg	0.5	Land with mostly shallow soils dominated by carbonate particles. Main soils: <i>highly calcareous loamy sand B1</i> . With some <i>shallow calcareous sandy loam on calcrete B2</i> . Ybg – flats (slopes <1%).

Detailed soil profile descriptions:

Main soils:

H1 *Carbonate sand* [Shelly Rudosol]

H1a *Deep to moderate depth light grey sand*

The soil is dominated by fine carbonate sand particles. There is usually a slight organic accumulation on the surface. Typically underlain by calcreted sediments. Found on coastal dunes.

H1b *A variant type with abundant shell grit*

These can be found on some coastal flats, seaward of coastal dunes.

Minor soils:

H2 *Calcareous siliceous sand* [Arenic Rudosol]

Deep to moderate depth light brown, light grey or brown calcareous siliceous sand. Composed of a mix of siliceous sand and carbonate sand particles. Typically underlain by calcreted sediments; but sands on low dunes can be underlain by saline clay loams and light clays when overlying swampy areas. Found on coastal dunes. Grades to **H1a** soil.

B1 *Shallow carbonate sand to highly calcareous loamy sand on calcrete*

[Petrocalcic Shelly Rudosol-Calcarosol with some Petrocalcic Supracalcic Calcarosol]

Carbonate dominant to highly calcareous sand overlying calcrete at shallow depth: found on some jumbled dunes, especially if eroded. Or a highly calcareous fine loamy sand or light fine sandy loam overlying calcrete at shallow depth: found on flats.

B2 *Shallow calcareous sandy loam on calcrete* [Petrocalcic Calcarosol]

Grey brown to brown calcareous sandy loam or loamy sand overlying calcrete at shallow depth. Profiles often contain significant amount of hard carbonate rubble. Found in depressions and on a few flats.

Further information: [DEWNR Soil and Land Program](#)

