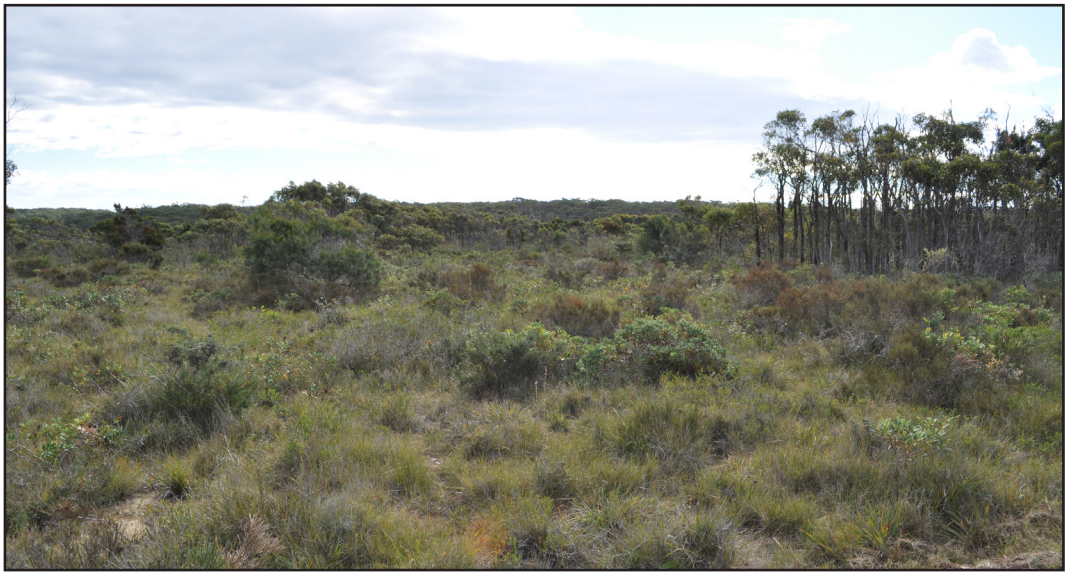
gp GREENWELL POINT Depositional



Landscape—gently undulating rises on siltstone with small coastal cliffs. Relief >20 m. Slopes >3%. Mostly cleared with stands of low open-forest. Undisturbed areas of tall open-forest.

Soils—shallow (<50 cm) Structured Loams (Uc6.14) or moderately deep (50–100 cm) Yellow Podzolic Soils (Dy2.11) on coastal cliffs. Red Solodic Soils (Dr3.31) occur on simple slopes and in drainage lines.

Limitations—shallow soil (localised), rock outcrop (localised), sodicity, hardsetting, high organic matter, moderate shrink-swell potential (subsoil).

LOCATION

Gently undulating rises on siltstone with small coastal cliffs on the Coastal Plain. Examples include Culburra, Orient Point, Greenwell Point and Callala Bay.

LANDSCAPE

Geology

Wandrawandian Siltstone—mid grey to dark grey pebbly siltstone to poorly sorted pebbly lithic sandstone.

Topography

Gently undulating rises. Relief <20 m. Slopes <3%. Scattered rock outcrops near crests and small coastal cliffs at Crookhaven Lighthouse. Moderately incised drainage lines (depth <3 m).

Vegetation

Extensively cleared to uncleared tall open-forest. The common species are scribbly gum (*Eucalyptus sclerophylla*), spotted gum (*Eucalyptus maculata*), red bloodwood (*Eucalyptus gummifera*), blackbutt (*Eucalyptus pilularis*), grey ironbark (*Eucalyptus paniculata*), forest oak (*Allocasuarina torulosa*), turpentine (*Syncarpia glomulifera*), grey gum (*Eucalyptus punctata*) and coastal tea-tree (*Leptospermum laevigatum*). Swamp oak (*Casuarina glauca*) or river oak (*Casuarina cunninghamiana*) grows along drainage lines.

Land Use

On the coast are the villages of Orient Point, Greenwell Point, Culburra and Callala Bay. The remaining area is undisturbed bushland including sections of Currambene State Forest.

Existing Erosion

Moderate rill erosion on batters and moderate stream bank erosion (localised).

Included Soil Landscape

Small areas of Nowra **(no)** soil landscape occur.

SOILS

Dominant Soil Materials

gp1—Hardsetting brownish black silt loam (topsoil)

Colour	brownish black (7.5YR 3/2) to dark brown (7.5YR 3/4) with occasional bleach
Texture	silt loam to loam, fine sandy
Structure	moderately pedal, 2–5 mm round peds
Fabric	rough-faced, porous
pH	6.5
Stones	<2% 6–20 mm angular, dispersed
Roots	few, ex-ped

gp2—Yellowish brown strongly pedal sandy clay (subsoil)

Colour	yellowish brown (10YR 5/6)
Texture	sandy clay
Structure	strongly pedal 10–20 mm angular blocky peds
Fabric	rough-faced, porous
pH	7.0–5.5
Stones	10–20% 20–60 mm angular, dispersed
Roots	few, in-ped

gp3—Brown strongly pedal medium clay (subsoil)

Colour	brown (10YR 4/4)
Texture	medium clay
Structure	strongly pedal 20–50 mm columnar peds
Fabric	rough-faced, porous
pH	3.5–4.5
Stones	<2% 6–20 mm angular, dispersed
Roots	nil

gp4—Mottled massive bright reddish brown heavy clay (subsoil)

Colour	bright reddish brown (5YR 5/6) with orange and grey mottles (50%)
Texture	heavy clay (with coarse sand)
Structure	apedal massive
Fabric	dense
pH	4.0–4.5
Stones	nil
Roots	nil

Occurrence and Relationships

Coastal cliffs and headlands. Near coastal cliffs <50 cm hardsetting brownish black silt loam **(gp1)** overlies bedrock [Structured Loams (Uc6.14)]. On headlands **gp1** overlies <40 cm yellowish brown strongly pedal sandy clay **(gp2).** Boundaries are clear [Yellow Podzolic Soils (Dy2.11)]. Total depth is <100 cm.

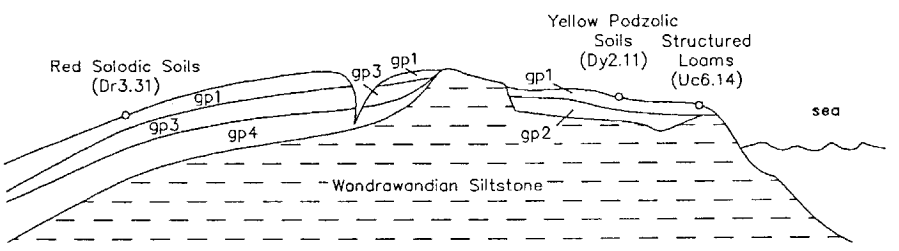
Slopes and drainage lines. Up to 10 cm **(gp1)** overlies <50 cm brown strongly pedal medium clay **(gp3)** which overlies <50 cm mottled massive bright reddish brown heavy clay **(gp4).** Boundaries are clear [Red Solodic Soils (Dr3.31)]. Total depth is <150 cm.

LIMITATIONS TO DEVELOPMENT

Soil Limitations

gp1 Hardsetting
Stoniness
High organic matter
Low wet bearing strength
Sodicity
Shrink-swell

gp2 Stoniness
High permeability
Low available water-holding capacity
Sodicity



■ *Schematic cross-section of Greenwell Point soil landscape illustrating the occurrence and relationship of the dominant soil materials.*

gp3 Strongly acid
High permeability
Low available water-holding capacity
Shrink-swell

gp4 Low permeability
Strongly acid
Low wet bearing strength
Shrink-swell

Fertility

General fertility is low. The topsoil **(gp1)** is generally hardsetting. The soil materials are stony, moderately to strongly acid with a low CEC.

Erodibility

All soil materials have a high erodibility.

Erosion Hazard

Erosion hazard for non-concentrated flows is moderate. The calculated soil loss for the first 12 months of urban development ranges up to 20 t/ha for topsoils and 20 t/ha for exposed subsoils. The erosion hazard for concentrated flows is low.

Surface Movement Potential

gp1, **gp3** and **gp4** are slightly reactive.

Landscape Limitations

Shallow soil (localised)
Wave erosion hazard (localised)
Wind erosion hazard (localised)
Rock outcrop (localised)

Urban Capability

Generally low limitations for urban development.

Rural Capability

Generally low to moderate limitations for regular cultivation and grazing.