

This Information Sheet describes the *typical average properties* of the specified soil. It is essentially a summary of information obtained from one or more profiles of this soil that were examined and described during the Topoclimate survey or previous surveys. It has been prepared in good faith by trained staff within time and budgetary limits. However, no responsibility or liability can be taken for the accuracy of the information and interpretations. Advice should be sought from soil and landuse experts before making landuse decisions on individual farms and paddocks. The characteristics of the soil at a specific location may differ in some details from those described here.
No warranties are expressed or implied unless stated.

Soil name: **Jacobs**

Overview

Jacobs soils occupy about 400 ha on tidal estuary margins from the Aparima River estuary to Waikawa. They are formed into estuarine sand on areas not exposed to the open sea. Soils are poorly drained, saline and frequently flooded. Present use is recreational or conservation reserve with some areas used for rough grazing with sheep and cattle. Climate is cool with prevailing winds from the south.

Physical properties

Jacobs soils have a deep rooting depth and high available water, but rooting is likely to be limited to shallow depth for most species because of the salinity. The soils are poorly drained due to the high groundwater table. Textures are silt loam in the topsoil which grades to sandy textures at depth. Topsoil clay content is about 20%, and the soils are stonefree.



Jacobs profile

Fertility properties

Little chemical information is available. Topsoil pH is moderate (about 6) and increases in the subsoil (high 6s) because of the high salinity.

Associated and similar soils

Some soils that commonly occur in association with Jacobs soils are:

- Makarewa: poorly drained soil with clayey textures on the slowly accumulating floodplain
- Dacre: young poorly drained soil with silty textures and little structural development
- Invercargill: very poorly drained soil formed in deep peat

Some soils that have similar properties to Jacobs soils are:

- Otakau: non-saline poorly drained soil with silty overlying sand textures; occurs in the non-saline areas of the Oreti River coastal flood basin
- Grasmere: poorly drained soil with clayey textures; occurs in the non-saline areas of the Oreti River coastal flood basin.

Sustainable management indicators

Note: the vulnerability ratings given in the table below are generalised and should not be taken as absolutes for this soil type in all situations. The actual risk depends on the environmental and management conditions prevailing at a particular place and time. Specialist advice should be sought before making management decisions that may have environmental impacts. Where vulnerability ratings of Moderate to Very severe are indicated, advice may be sought from Environment Southland or a farm management consultant.

Vulnerability factor	Rating	Vulnerability compared to other Southland soils
Structural compaction	very severe	These soils have a very severe vulnerability to structural degradation by long-term cultivation, or compaction by heavy stocking and vehicles. This rating reflects the poor drainage, low organic matter and P-retention.
Nutrient leaching	slight	These soils have a slight vulnerability to leaching to groundwater. This rating reflects the poor drainage and high water-holding capacity.
Topsoil erodibility by water	moderate	Due to the low clay content, topsoil erodibility in these soils is moderate. Erodibility is highly dependent on management, particularly when there is no vegetation cover.
Organic matter loss	slight	Vulnerability to long-term decline in soil organic matter levels is partly dependent on soil properties and highly dependent on management practices (e.g., crop residue management and cultivation practices).
Waterlogging	severe	These soils have a severe vulnerability to waterlogging during wet periods. This rating reflects the poor drainage.

General landuse versatility ratings

Note: The versatility ratings in the table below are indicative of the major limitations for semi-intensive to intensive land use. These ratings differ from those used in the past in that sustainability factors are incorporated in the classification. Refer to the Topoclimate district soil map or property soil map to determine which of the soil symbols listed below are applicable, then check the versatility ratings for that symbol in the appropriate table.

JcU1 (Jacobs undulating deep)

Versatility evaluation for soil JcU1		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Unsuitable	Risk of flooding and salinity
Arable	Unsuitable	Risk of flooding and salinity
Intensive pasture	Unsuitable	Risk of flooding and salinity
Forestry	Unsuitable	Risk of flooding and salinity