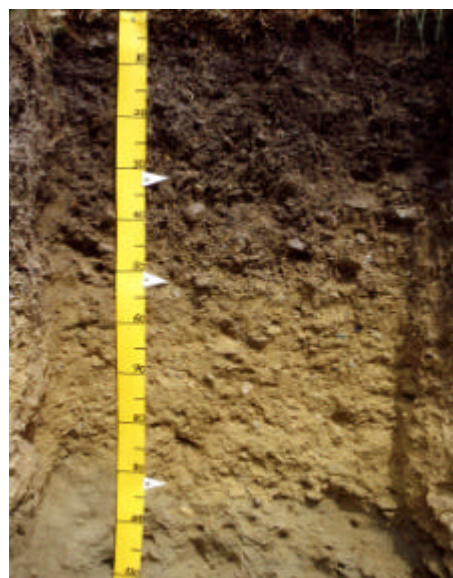


This Information Sheet describes the *typical average properties* of the specified soil. It is essentially a summary of information obtained from one or more profiles of this soil that were examined and described during the Topoclimate survey or previous surveys. It has been prepared in good faith by 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: **Oreti Scarp**

### Overview

Oreti Scarp soils occupy about 900 ha on the Waimea Plain in northern Southland and in the Garston district. They occur on the scarps of intermediate terraces in association with Oreti soils on the terrace flats. They are formed into colluvium of greywacke and schist gravels, with varying thickness of loess that has accumulated in more stable sites. Soils are a variable complex of soil profiles depending on the localised erosion patterns. Typically, though, they are well drained shallow soils with stony subsoils and have silty textures. Present use is pastoral farming with sheep and deer and farm forestry. Climate is temperate with warm summers. Regular rain occurs but soils are seasonally dry, particularly those facing north.



*Oreti Scarp profile*

### Physical properties

Oreti Scarp soils have a shallow to moderately deep rooting depth, with low plant available water, that varies depending on the abundance of gravels in the subsoil. The soils are typically well drained, with good aeration, and rapid permeability. Textures vary between silt loam to sands, with a topsoil clay content of about 10–20%. Soils are generally stony throughout.

### Fertility properties

Topsoil organic matter levels are 3–6%; P-retention 20–30% and pH moderate (mid 5s). Topsoil cation exchange values are moderate and base saturation values low. Available calcium values are low, with magnesium and potassium values moderate. Available nutrients are low to very low in the subsoil. Soil reserve phosphorus and sulphur levels are low. Micronutrient levels are generally adequate.

### Associated and similar soils

Some soils that commonly occur in association with Oreti Scarp soils are:

- Otama: low angle dunes with silty to loamy textures, and gravel below 45cm depth
- Crookston: formed in silty loess, with gravel below 45cm depth

Some soils that have similar properties to Oreti Scarp soils are:

- Kaweku Scarp: occurs on terrace scarps of high terraces; gravels are more weathered
- Oreti: occurs on the associated high terrace flats; more consistent soil profile

## 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
<b>Structural compaction</b>	moderate	These soils have a moderate vulnerability to structural degradation by long-term cultivation, or compaction by heavy stocking and vehicles. This rating reflects the well drained nature of the soil, but moderate to low clay, organic matter and P-retention.
<b>Nutrient leaching</b>	very severe	These soils have a very severe vulnerability to leaching to groundwater. This rating reflects the low to moderate water holding capacity, with rapid permeability and well drained nature of the soil.
<b>Topsoil erodibility by water</b>	slight	Due to the moderate to low clay and organic matter content, topsoil erodibility in these soils is slight. Erodibility is highly dependent on management, particularly when there is no vegetation cover.
<b>Organic matter loss</b>	moderate	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).
<b>Waterlogging</b>	nil	These soils have a nil vulnerability to waterlogging during wet periods. This rating reflects the well drained nature of the soil and rapid permeability.

## 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.

### UOeH (Oreti Scarp hilly) and UOeS (Oreti Scarp steep)

Versatility evaluation for soil UOeH, UOeS		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Unsuitable	Hilly and steep slopes
Arable	Unsuitable	Hilly and steep slopes
Intensive pasture	Limited	Vulnerability to leaching to ground water; restricted rooting depth.
Forestry	Limited	Restricted rooting depth; steep slopes.

### UOeR (Oreti Scarp rolling)

Versatility evaluation for soil UOeR		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Limited	Vulnerability to leaching to groundwater; restricted rooting depth.
Arable	Limited	Vulnerability to leaching to groundwater; restricted rooting depth.
Intensive pasture	Limited	Vulnerability to leaching to ground water; restricted rooting depth.
Forestry	Limited	Restricted rooting depth.

### Management practices that may improve soil versatility

- Management of fertiliser nutrient applications that minimise leaching and runoff losses
- Careful management of topsoil organic matter levels

Copyright © 2002, Crops for Southland

[www.cropssouthland.co.nz](http://www.cropssouthland.co.nz)

This Information Sheet may be reproduced in whole or in part and in any form for educational or non-profit purposes without special permission from the copyright holder, provided acknowledgement of the source is made. Crops for Southland and Environment Southland would appreciate receiving a copy of any publication that uses this Information Sheet as a source. No use of this Information Sheet may be made for resale or for any other commercial purpose whatsoever without prior permission in writing from Crops for Southland.