

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: **Isla Bank**

### Overview

Isla Bank soils occupy about 2700 ha on high terraces in the Otautau district and on undulating to rolling slopes on the low hills adjacent to Winton. They are formed into deep loess overlying gravelly alluvium and tertiary limestone bedrock. Isla Bank soils are moderately well drained, with deep rooting depth, high water-holding capacity and silt loam textures. Present use is pastoral grazing with sheep, dairy and deer with some cropping. Climate is cool temperate with regular rainfall. Soil seldom dry out.

### Physical properties

Isla Bank soils have a deep rooting depth and high plant available water, meaning there is no major restriction to plant growth. Aeration is typically good, but the slow permeability of the lower subsoil can cause short-term waterlogging after heavy rain. Textures are heavy silt loams, with topsoil clay content of 28–32%. Soils are stonefree.



*Isla Bank profile*

### Fertility properties

Topsoil organic matter levels are 5–7%; P-retention 35–45% and pH moderate (high 5s). Cation exchange is moderate and base saturation high, reflecting the limestone influence. Available calcium levels are high with magnesium and potassium low. Reserves of phosphorus are also low. Micronutrient levels are generally adequate.

### Associated and similar soils

Some soils that commonly occur in association with Isla Bank soils are:

- Te Mara: imperfectly drained soil formed into mixed loess and fine colluvium from limestone
- Kauana: shallow soil forming onto limestone bedrock
- Waianiwa: imperfectly drained Brown soil with a fragipan

Some soils that have similar properties to Isla Bank soils are:

- Waikiwi: well drained Brown soil; typically has a structureless, firm lower subsoil
- Lyoncross: well drained Brown soil formed on high to intermediate terraces of the lower Waiau Valley
- Waimatuku: found on high terraces of the Southland plain, between the Oreti and Aparima rivers; typically has a compact, weakly developed fragipan in the lower subsoil

## 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 good drainage, moderate clay and organic matter content.
<b>Nutrient leaching</b>	moderate	These soils have a moderate vulnerability to leaching to groundwater. This rating reflects the moderately well drained profile characteristic, offset by the high water-holding capacity and slow permeability.
<b>Topsoil erodibility by water</b>	slight	Due to the moderate 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>	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).
<b>Waterlogging</b>	slight	These soils have a slight vulnerability to waterlogging during wet periods. This rating reflects the good drainage, but slow subsoil 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.

### IbU1 (Isla Bank undulating deep)

Versatility evaluation for soil IbU1		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Moderate	Risk of short-term waterlogging after heavy rain
Arable	Moderate	Vulnerability to topsoil structural degradation by cultivation and compaction; risk of short-term waterlogging after heavy rain
Intensive pasture	Moderate	Vulnerability to topsoil structural degradation by cultivation and compaction; risk of short-term waterlogging after heavy rain.
Forestry	High	No significant limitation

### IbR1 (Isla Bank rolling deep)

Versatility evaluation for soil IbR1		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Moderate	Rolling slopes; risk of short-term waterlogging after heavy rain
Arable	Limited	Rolling slopes
Intensive pasture	Moderate	Vulnerability to topsoil structural degradation by cultivation and compaction; risk of short-term waterlogging after heavy rain.
Forestry	High	No significant limitation

**IbS1 (Isla Bank steep deep):** unsuitable for non-arable horticulture and arable landuse, and limited versatility for intensive pasture and forestry due to limitation of steep slopes.

### Management practices that may improve soil versatility

- Careful management after heavy rain and wet periods will reduce the impact of short-term waterlogging.
- Intensive stocking, cultivation and heavy vehicular traffic should be minimised during these periods.