

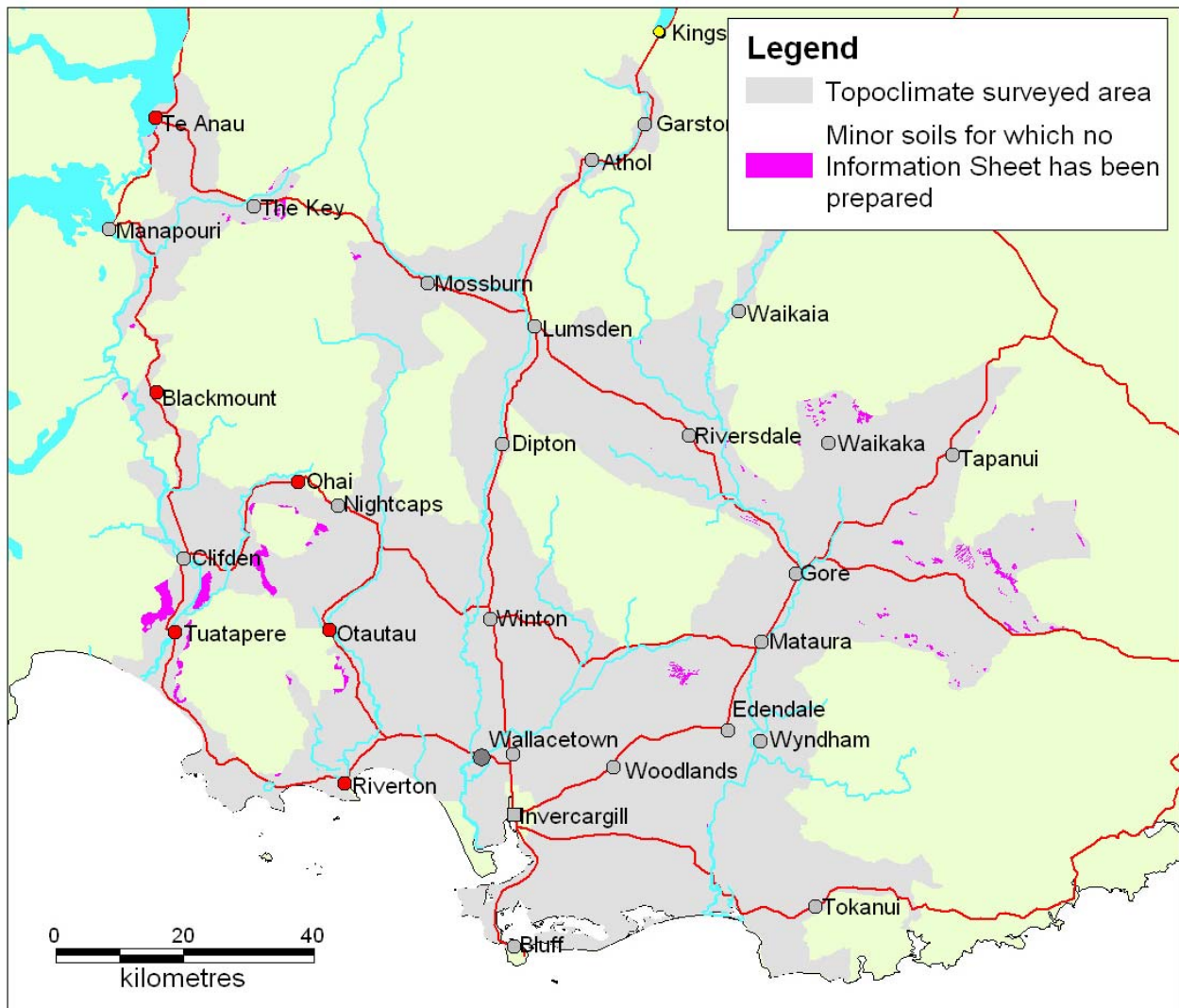
## Minor soils in the Topoclimate Survey of Southland

When the Topoclimate survey of Southland was completed in 2001 some 170 distinct soil series had been identified, named and described. Crops for Southland then contracted technical writers to prepare two suites of publications which summarised the information about each soil for a lay audience (*Soil Information Sheets*) and a scientific audience (*Soil Technical Data Sheets*). One of each of these was prepared for each of 143 soils and made available in printed form and via the Internet. Some 30 soils were not written up because either the soils were represented in very small areas or insufficient analytical data had been recorded about them. Together, they represent approximately 1% of the total area surveyed and are quite widely scattered (see attached map). Recent changes in land use and increased intensification of dairying activity suggests there is now some merit in recording the location and characteristics of these minor soils.

The following table presents the key information for 26 of the remaining soils. Four others, although named in the survey, could not be found on any of the district maps. The attached map shows the distribution of these minor soils. The most significant vulnerability issues facing soils in the intensively farmed areas of Southland are soil compaction, leaching of nutrients to groundwater, and short term waterlogging after heavy rainfall. If any of the soils listed below have more than a moderate susceptibility to any of these risks, that fact is noted.

Soil	Distribution, classification and significant vulnerabilities
Alton	847ha in 2 polygons west of Tuatapere. Recent soil, moderately susceptible to both structural compaction and waterlogging.
Andrews	506ha in 29 polygons – scattered pockets of peat in the Kaiwera district. Organic soil, highly susceptible to waterlogging.
Ashton	72 ha in 3 polygons confined to outwash fans and terraces on the north side of the Thomas Burn (a tributary of the Mararoa River) between Mararoa and the Key. Brown soil, very severe risk of nutrient leaching.
Beaumont	Associated in a single 580ha polygon of <b>Pukemutu</b> just north of Hedgehope.
Blackmount	Associated with <b>Borland</b> .
Borland	92 ha in 2 polygons in the Monowai/Blackmount district. Brown soil, severe risk of nutrient leaching.
Glenlea	663 ha in 8 polygons on south-facing slopes of steeply rolling downlands at 3 locations: Wendon Valley, north of Waipahi, east of Pebbly Hill. Brown soil, severe risk of nutrient leaching.
Greenfield	A single 23 ha polygon adjoining <b>Pukeawa</b> just north of Clydevale. Recent soil, severely vulnerable to structural compaction, very severe risk of nutrient leaching, severe risk of organic matter loss.
Grove Burn	220 ha in 2 polygons at Waimotu, NW of Tuatapere; similar locality to nearby <b>Merrivale</b> . Brown soil.
Haycocks	204 ha in 4 polygons on the edge of the Takitimu Mountains just east of The Key; also associated with <b>Hazlett</b> . Brown soil.
Hazlett	110 ha in 5 polygons on the edge of the Takitimu Mountains in The Key district. Brown soil.
Landslip	127 ha in 2 polygons, one at <i>Landslip Hill</i> at the north end of the West Tapanui State Forest NE of Pukerau, the other on Charters Road SE of Waikoikoi. Brown Sandy soil, moderately susceptible to structural compaction, severe susceptibility to nutrient leaching.
Lillburn	18 ha in a single polygon on the eastern edge of the Rowallan Forest just north of Tuatapere. Also, and more extensively, found as an associate with areas of Grove Burn and Merrivale soils. Brown soil.
Lithosol	60 ha in a cluster of 6 polygons on the ridge above Otamita, NW of Gore. Raw Rocky soil, very severe structural compaction vulnerability, very severe nutrient leaching risk, severe susceptibility to organic matter loss – in short, a very vulnerable soil.

Mahara	157 ha confined to a narrow strip along the shoreline of Lake Te Anau, North and South of the Te Anau township. Recent soil, severely susceptible to structural compaction and severely vulnerable to topsoil erosion, very severe risk of nutrient leaching and severely vulnerable to organic matter loss – a highly vulnerable soil.
Malakoff	1,155 ha in 3 polygons, the most extensive running southwards from Scotts Gap along the western flank of Island Bush to Raymonds Gap, two smaller areas being located on the lower slopes of Twinlaw Peak immediately to the north. Melanic soil, severe vulnerability to nutrient leaching.
Merrivale	1,889 ha in 7 polygons on western flank of Longwood Range. Previously included with <b>Lilburn</b> soil series. Brown soil.
Mt. Mistake	1,257 ha in 15 polygons on ridge tops between Clinton and the West Tapanui State Forest. Also frequently associated with <b>Arthurton</b> , <b>Clinton</b> and <b>Mandeville</b> soils in the Wharetoa district. Brown soil, severe vulnerability to nutrient leaching.
Pukeawa	46 ha in 3 polygons – narrow strips of recent soil on the right bank of the Clutha River between Tuapeka Mouth and Clydevale. Also found in association with <b>Pomahaka</b> soils. Recent Rocky soil, severe susceptibility to structural compaction, very severe vulnerability to nutrient leaching, severe vulnerability to organic matter loss.
Pukekoma	467 ha in 6 polygons around Greenvale, north of Waikaka. Brown soil, moderate susceptibility to structural compaction, severe risk of nutrient leaching and organic matter loss.
Pyramid	75 ha in 3 polygons west of Waikaka. Pallic soil, severe vulnerability to structural compaction and nutrient leaching.
Stirling	15 ha in a single polygon – an isolated peat swamp NE of Popotunoa. Organic soil, severe risk of waterlogging.
Traill	92 ha in 2 polygons on the edge of the Longwood Range. This podzol is found over extensive areas of steeper hill country and is therefore mostly outside the Topoclimate survey area. It is also found as a secondary soil associated with polygons of <b>Waihoaka</b> . Podzol, moderately susceptible to structural compaction.
Tuapeka	43 ha in 3 polygons NE of Tapanui. This is a hill country soil covering extensive areas of the western slopes of the Blue Mountain Range and is therefore mostly outside the Topoclimate survey area. Brown soil, moderately susceptible to structural compaction, severe risk of nutrient leaching.
Weydon	80 ha in a single polygon – a small patch of gley soil on the edge of an <b>Otanomomo</b> peat swamp just south of Centre Hill (NW of Mossburn). Gley soil, moderate susceptibility to structural compaction, severe risk of waterlogging.
Woodlaw	618 ha in 4 polygons on the Eastern flank of Woodlaw Forest and on the Eastern flank of the Longwood Range. This is a hill country soil and is therefore mostly outside the Topoclimate survey area. Brown soil, severe risk of nutrient leaching.



If anyone requires more information about any of these minor soils, it can be extracted on request from the database on an *ad hoc* basis as part of the ongoing Topoclimate service provided by Venture Southland.