

482321

Wihareja lagoon

Undulating plains of Tertiary basalt form the bedrock in this land system which is situated in the central south of the study area. It covers land in the vicinity of Wihareja Lagoon, Bashan Plains, Shannon Lagoon and Stockyard Flats with a minor erosional remnant immediately north of these flats. Shannon Lagoon occurs in a higher altitudinal zone but is included in this land system due to many similarities. Stepped land forms resulting from Tertiary lava flows are obvious on Bashan Plains and around Shannon Lagoon. Low rocky ridges are common around Wihareja Lagoon with more restricted occurrences on Bashan Plains where they are confined to areas intruded by Jurassic dolerite. Extensive tracts have been cleared for grazing, and 'improved' pastures have been established in places. This is probably a result of the relatively high physical fertility of the soils.

The basaltic soils are typically reddish brown, well drained and can be quite stony or rocky. On flats and slopes profiles are often duplex while on crests, where rock outcrop is common, gradational soils are typical. Throughout the land system loamy top soils overlie clayey B horizons.

Most of the forest vegetation has been removed, but remnants suggest that taller more extensive forests existed in the Bashan Plain region prior to clearing. Species such as *Eucalyptus dalrympleana*, *E. johnstonii* and *E. rodwayi* occur in the Bashan Plains region while around Wihareja and Shannon lagoons *Eucalyptus coccifera*, *E. gunnii* and *E. pauciflora* are found. These latter species are generally more cold tolerant which suggests that the Wihareja/Shannon segments of the land system are more prone to cold air drainage or are in a position more exposed to westerly storms. Although large areas of the flats component have been cleared native shrub and grassland vegetation is sometimes present. Here *Hakea epiglottis*, *Lissanthe montana* and *Poa* spp. are widespread. Swamp environments may be inhabited by these species although *Epacris gunnii* and *Richea acerosa* replace them in the wettest positions.

The only exploitive land use in the land system is grazing. Drier well drained components (i. e. 2 to 4) are highly susceptible to sheet erosion. This form of land degradation is already well established in the Wihareja and Shannon Lagoon areas as a result of burning and possibly over grazing. Frost heave probably prevents the re-establishment of vegetation in bare areas. Surface layers loosened by frost action are particularly vulnerable to being washed or blown away. The route taken by the Lake Highway across St Patricks Plains has been used as a stock route for many years. Intense grazing and trampling along this corridor has resulted in serious (sheet) erosion which is still expanding (see photograph). Waterlogging and flooding are problems in swamp components.



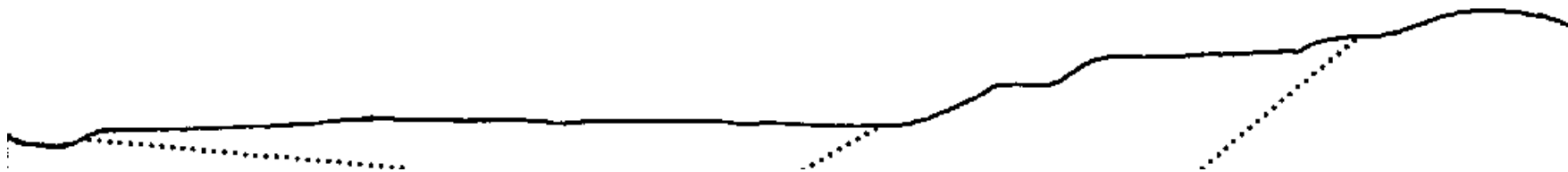
Severe sheet erosion on the southern part of St. Patricks Plains. This area has been used as a stock route for over 100 years.
(Photograph Mr J. D. Colclough).

LAND-SYSTEM

Wihareja Lagoon

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Area (ha):
21995



| | | | | |
|--|--|---|---|--|
| COMPONENT | 1 | 2 | 3 | 4 |
| PROPORTION (%) | 5 | 50 | 30 | 15 |
| RAINFALL (mm) | Approximate Annual Rainfall: 750-1000 | | | |
| GEOLOGY | Tertiary basalt | | | |
| TOPOGRAPHY | Undulating plains with stepped features | | | |
| Position | Swamps | Flats | Slopes | (Rocky) Crests |
| Typical Slope (°) | 0-3 | 1-3 | 3-7 | 3 |
| NATIVE VEGETATION | Open Heath/Tussock | Open Forest/Open | Open Forest/Open | |
| Structure | Grassland/Sedgeland | Heath/Tussock Grassland (remnant) | Heath/Tussock Grassland (remnant) | Woodland |
| Floristic Association (See Appendix 1 for common names) | Hakea epiglottis Richea acerosa Epacris gunnii Helichrysum hookeri Lepidosperma fillforme Empodisma minus Restio australis Poa sp. Eucalyptus gunnii | Eucalyptus coccifera E. pauciflora E. dalrympleana E. rodwayi Hakea epiglottis Lissanthe montana Relichrysum hookeri Grevillea australis Coprosma nitida Poa sp. | Eucalyptus coccifera E. johnstonii H. gunnii Acacia dealbata Hakea epiglottis Helichrysum hookeri Lissanthe montana Coprosma nitida Cyathodes parvifolia Richea acerosa Poa sp. | Eucalyptus gunnii E. coccifera E. pauciflora Hakea epiglottis Lissanthe montana Epacris gunnii Bossiaea riparia Pultenaea juniperina Coprosma nitida |
| SOIL Surface(A) Texture | Peat-Organic Loam | Loam-Clay Loam | Loam | Loam |
| B Horizon(subsoil) Colour (wet) Texture and primary profile form | Black (2.5 YR N2.5) medium clay or brown/dark brown (7.5 YR 4/2) light clay. Organic. | Stony, gravelly strong brown (7.5 YR 4/6) to dark reddish brown (5 YR 3/4) light medium clay. Duplex. | Stony, very dark brown (10 YR 2/2) to reddish brown (5 YR 4/4) light clay. Duplex. | Stony, gravelly, dark red (2.5 YR 3/6) to yellowish red (5 YR 4/6) light clay to sandy clay clay loam. Gradational. |
| Permeability | | Moderate-Low | Moderate | Moderate |
| Typical depth(m) | 0.40-0.50 | >0.60 | 0.80 | >0.40 |
| Depth(A) Horizon(m) | 0.30 | 0.10-0.20 | 0.10-0.30 | 0.10 |
| LAND USE | Grazing | | | |
| HAZARDS | Waterlogging and flooding | | High sheet erosion | |