

SOIL CONSERVATION AUTHORITY

Report on the

**LAND-USE DETERMINATION IN THE
LAKE MERRIMU-GOODMAN'S CREEK
WATER SUPPLY CATCHMENT**

Prepared for consideration by the Land Utilization Advisory Council
At its 85th Meeting on the
25th June 1969

May 1969

SOIL CONSERVATION AUTHORITY

Report on the Land-Use Determination in the Lake Merrimu - Goodman's Creek water supply catchment.

A. PROCLAMATION OF CATCHMENT

The Lake Merrimu (Goodman's Creek) catchment was proclaimed a water supply catchment under Section 22 of the *Soil Conservation and Land Utilization Act 1958*, on the 13th February, 1968. The proclamation was published in the *Victoria Government Gazette No. 14, dated 21st February 1968*.

B. LAND-USE DETERMINATION

At its 77th meeting, on the 25th January, 1968 the Land Utilization Advisory Council considered the report on the catchment.

The environmental features, as described in the report mentioned, are similar to those of Lake Merrimu - Coimadai Creek catchment. Therefore, the here proposed Land-Use Categories are basically the same as the categories formulated for the Coimadai Catchment.

The environmental system here is of the type which cannot undergo much change without significant harm. The properties of an efficient catchment are that it supplies the maximum quantity of sediment-free water in as uniform a flow as possible. Earlier heavy, uncontrolled clearing, fires, overgrazing by stock and rabbits brought about conditions whereby runoff is quickly assembled and discharged in this catchment. To change this undesirable hydrologic characteristic of the catchment landowners would need assistance on a considerable scale.

The proposed land-use determination can provide the basis for catchment improvement and will give immediate protection and assurance against further catchment deterioration.

C. LAND-USE CATEGORIES

The following categories are recommended for a land-use determination in this catchment -

Category No. 1

Land which shall be used for permanent forest where forestry operations shall be carried out only in accordance with management conditions made or approved by the Soil Conservation Authority. No tree shall be removed and no soil shall be disturbed within a minimum distance of 1 chain from the banks of all streams and watercourses without the specific approval of the Authority. Grazing, the construction of roads, dams or earthworks of any description are subject to the approval of the Authority.

Category No. 2

Land which may be used for grazing subject to conditions made or approved by the Authority, such conditions to include:

- A. The specification of areas suitable for clearing and those which are to remain under forest.
- B. The application of management and conservation practices where necessary.

Category No. 3

Land which shall be used primarily for grazing where cropping may be practised only under management conditions made or approved by the Authority. Such conditions to include the specification of length of rotation and conservation practices where necessary.

Category No. 4

Land suitable for cropping, subject to conditions imposed by the Authority for particular circumstances and where changes in land-use shall be subject to approval by the Soil Conservation Authority.

Category No. 5

Land which shall be used for protection of streams and watercourses where:

1. No tree shall be removed or soil disturbed in any way without the specific approval of the Authority.
2. The crossing of streams and watercourses is permitted only by means of properly constructed crossings specifically approved for the particular site by the Soil Conservation Authority.

This category covers areas within 5 chains of the offtake weir and within 1 chain or such greater distance as the Authority may require from the banks of streams, springs and watercourses within this catchment.

Category No. 6

- 6A Land used or reserved for roads on which any changes in land-use shall be made only after consultation with the Soil Conservation Authority.
- 6B. Land reserved for roads on which any changes in land-use shall be made only with the approval of the Soil Conservation Authority.

D. CATCHMENT CHARACTERISTICS RELATING TO LAND-USE DETERMINATION

Category No. 1

Included in this category are the:

Reserved Forests	about	7,450 acres
Crown Lands (including roads and water reserves)	about	200 acres
State Rivers and Water Supply Commission Land	about	420 acres

Totalling about 8,080 acres

The 420 acres divide into CA's 63A, 63 and 64 in the parish of Coimadai and CA 1 in the parish of Coornmill. All these blocks are surrounded by State Forest, have long frontages to Goodman's Creek, are near the offtake weir, have high erosion risk and are in parts severely sheet eroded, tunnelled and gullied. To safeguard the land from further erosion and to facilitate reclamation State Rivers and Water Supply Commission purchased the land on the recommendation of the Soil Conservation Authority.

Mot of the land covered by this category is on the west side of the creek and vested in or controlled by a Government department. It is deeply dissected land with slopes between 45 and 60%, with shallow to skeletal soils on Ordovician sandstones and slates.

Gullying, in places severe tunnelling and considerable sheet erosion has occurred and is continuing in the area. Extremely poor ground cover under the low quality stringybark, red box and iron bark forest, interrelated to poor soils and aspect effects further aggravated by rabbits, are the essential causes of degradation. Although utilization will always be restricted naturally to a long rotation, any extraction of timber should be strictly controlled, particularly in relation to roading and effectiveness of stimulation regeneration.

Serious consideration must be given to the grave fire risk threatening this short, dry sclerophyll forest, lying in a rain shadow area. While fuel accumulation is relatively slow when a fire starts the topography, which obstructs easy ground movement of fire fighters, favours the rapid spread of fire by spotting and up-draughts.

Category No. 2

The steep to very steep valley slopes east of the creek are included in this category. This mostly cleared land on the Ordovician sedimentary formation with its solodic soils has high erosion hazard. Undoubtedly many of the slopes should have remained under forest. The steepness of this land automatically excludes cultivation.

Careful management, judicious control of stocking is required to maintain continuous cover. The soils are inherently susceptible to erosion. The steep slopes, the skeletal soils, subjected mostly to indifferent management, with their short and sparse grass cover have very limited storage capacity, and discharge of water is rapid.

Category No. 3

The narrow strips of land covered by this category are the transitional areas from basalt to sedimentary land.

Category No. 4

The land of this category is situated on the newer volcanic capping in a strip running down the entire east side of the catchment.

The soils on the ridge are well structured and free from erosion, suitable for cropping without restriction.

Category No. 5

The maintenance of buffer strips in view of the topography and land-use practice shall cause no problems in this catchment.

Category No. 6

6A Relates to operative roads, and would allow for a change from the existing land-use after consultation with the Authority.

6B. Relates to the non-operative roads where a change in land-use may be brought about only after the approval of the Authority has been obtained.

The Land Utilization Advisory Council at its 61st meeting, on 12th March 1965 reached an agreement that there should be two categories of roads.

The freehold land in the catchment at present is owned by nine landholders. Four of them own the whole of the eastern part of the catchment. These graziers have their homes and buildings along the east-side of the Bacchus Marsh-Gisborne Road, in the Coimadaí Catchment where the major portion of their land lies. The remaining five own the top-most, north-eastern end of the catchment. The size of their holdings varies from one to 44 acres. The two largest 62A and 62B parish of Bullengarook are conducted as pig farms.

Periodic visits have been made to these latter properties since the date of the Proclamation and in consequence conditions have improved considerably on one farm. Very little co-operation was received from the other owner and it seems that in this case, after the land-use determination is gazetted, concerted action by the Department of Health and the Soil Conservation Authority will be needed.

In all other aspects pollution hazards, bacterial and chemical, are minimal in this catchment.

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