SOIL CONSERVATION AUTHORITY

A REPORT ON THE

KING RIVER (LAKE WILLIAM HOVELL) CATCHMENT

A PROPOSAL FOR PROCLAMATION PREPARED FOR CONSIDERATION BY THE LAND CONSERVATION COUNCIL

By

R. G. PATRICK
Conservation Officer

November 1978
SOIL CONSERVATION AUTHORITY
378 Cotham Road Kew Victoria 3101

CONTENTS

INTRODUCTION

In the Final Recommendations for the North-Eastern Study Area, Districts 3, 4 and 5, the Land Conservation Council has recommended that the catchment to Lake William Hovell be investigated by the Soil Conservation Authority and if appropriate recommended for proclamation.

Similarly, in the Proposal Recommendations for the Alpine area, the Council recognises the particularly sensitive nature of land above 1,200 m and identifies the need for a standardised means of catchment protection, initially through the procedure of proclamation.

Whilst the Soil Conservation Authority has been assigned specific responsibility by the State Government, under a Premier's Directive dated 1960, to exercise supervisory control over all grazing and earthworks on land above 1,219 m elevation, it is considered that guidelines for protection of catchment lands involving alpine and sub-alpine environments would be enhanced by proclamation and, where appropriate, subsequent Land Use Determination.

The land in this catchment is primarily forested and provides for uses such as water production, timber production and various recreation activities, particularly 4WD touring. These activities are placing increasing demands on the catchment. The proposed development of Mt Stirling for both downhill and cross country skiing is an intensive use for which adequate land use planning is considered essential.

This report is presented for consideration by the Land Conservation Council and recommends proclamation of the catchment under Section 5(1)(b) of the *Land Conservation Act* 1970. Current investigations will assess the need and potential benefits of applying a Land Use Determination to this catchment.

WATER RESOURCE AND USE

Following studies by the State Rivers and Water Supply Commission, the Parliamentary Public Works Committee in 1966, recommended that a dam be built on the King River, to safeguard the produce of the valley and to provide for further development.

The earth and rockfill embankment was completed in 1971. When filled to the maximum height of 35 m, Lake William Hovell has a storage capacity of 12,330 ML.

The King River at the outlet from Lake William Hovell has an average annual flow of approximately 320,000 ML. A significant volume is diverted under licences issued by the State Rivers and Water Supply Commission, for irrigating some 800 hectares of tobacco, hops and pastures within the lower valley. Potential for development of an additional 1,860 hectares was considered but no proceeded with because of the variability in stream flow, particularly during summer months when streams can dry up completely for several weeks.

CATCHMENT DESCRIPTION

(a) General

The King River rises on the northern slopes of the Great Dividing Range near Mt Howitt. From this point, the southern boundary runs north-west passing to the north of Mt Stirling where it separates the southern branch of the King River and the headwaters of the Upper Goulburn Catchment
Further to the north-west the catchment is bounded by the ridge between the King River (West Branch) Catchment and Evans Creek, a major tributary to the King. The northern boundary follows the Crosscut-saw, passing via Mounts Buggery, Speculation and Koonika through to Burnt Top.

From here the boundary travels almost due north to Mount Typo, and subsequently north-west to Lake William Hovell.

The King River flows northwards through forested mountain country passing into a wide valley below the storage. Associated fertile flats extend through Chestnut and Whitfield to the confluence of the King and Ovens Rivers at Wangaratta. The catchment area to Lake William Hovell is 332 km^2.

(b) Geology

The complex of Carboniferous sediments and acid lavas of Upper Devonian age extends into the catchment from the east. The lavas are predominantly rhyolite and rhyodacite. The lower Carboniferous sediments are terrestrial deposits ranging from coarse conglomerate through red sandstone to siltstones and shale.

A small residual of Eocene age basalt occurs in the south-western corner of the catchment near Toombullup. Sediments of Middle to Upper Ordovician age occur immediately south of the catchment boundary bordering the headwaters to the adjacent Rose River catchment; also a tongue extends through the southern boundary between The Pinnacle and the Monument.

A small part of the Mt Stirling granodiorite extends into the catchment, separating the Carboniferous sediments of the Mt Cobbler plateau from those further to the west.

(c) Physiography

The majority of terrain is mountainous with characteristically steep slopes in the order of 25 to 40%. Elevations range from 408 m (FSL- Lake William Hovell) to 1,746 m (Mt Stirling).

Valleys between ridges and spurs are generally narrow with the exception of rolling to low hilly, valley bottoms in the following locations: the vicinity of the western abutment to Lake William Hovell, Evans Creek near the Evans Creek Motel, Pineapple Flat and an extensive strip adjacent to the Upper King River.

(d) Climate

Average rainfall varies between 1,400 and 1,600 mm over the catchment. Precipitation greater than 1,600 mm occurs on the higher peaks, such as Mt Stirling. Snowfalls occur regularly above 1,000 m with cover persisting from June to October at elevations above 1,400 m.

The hottest months are January and February, and July is the coldest. Mean monthly temperatures in the alpine environments can be below 0^0C for June, July and August.

(e) Soils and Vegetation

Because of the variable geology and broad range of topography and elevation, a large variety of soils is present.
Similarly, a wide range of vegetation communities from open forest structures to alpine herbfields and heathlands are to be found within the catchment.

Detailed descriptions of both soil types and vegetation communities will be included in the Land Use Determination Report.

LAND TENURE AND USE

All land within the catchment is publicly owned.

Apart from a public land frontage surrounding Lake William Hovell, for which the State Rivers & Water Supply Commission have management responsibilities, all other land has Reserved Forest or Crown Land status including water frontages permanently reserved along the King River.

Extraction of hardwood, both mixed species and alpine ash has been the major resource use in this catchment. In the headwaters region logging of predominantly alpine ash stands is expected to continue, with isolated logging of mixed species in small coups proposed over a broader area.

Grazing of Crown Land occurs in the Parish of Wabonga South. The issue of grazing licenses is administered by the Department of Crown Lands & Survey. Grazing also occurs in the upper catchment under Agistment Permits issued by the Forests Commission for both Reserved Forest and several grazing "runs" within Crown Land. Administration of these grazing areas is carried out by the Mansfield Forest District.

Recreational use of the catchment is increasing. Boating (maximum 10HP), swimming and picnicking are catered for at the storage itself. Camping is prohibited in this area. Four wheel drive touring has shown the greatest increase and there is growing concern over the effects this is having on forest roads and tracks throughout the catchment.

The Land Conservation Council has made final recommendations for the North-Eastern Study Area Districts 3, 4 and 5 in which the lower portion of catchment is located. The upper catchment is located within the Alpine Study Area for which proposed recommendations have been published. Recommendations for both sections are shown in Figure 1.

HAZARDS TO THE WATER SUPPLY

Siltation of the storage is the prime concern associated with Lake William Hovell. Biological pollution is of secondary concern at present time as water is not used, directly from the storage for domestic purposes. However provisions has been made in the design of the outlet works for possible supply of water to the City of Wangaratta directly from the storage at some time in the future.

Erosion hazard is variable throughout the catchment according to the limiting features expressed in the particular land system recognised. Steep slopes on soils derived from Carboniferous sediments are particularly susceptible to water erosion. Wind and water erosion hazards are both high on exposed ridge tops and on upper slopes in alpine type environments where organic loam soils are present.

Adequate planning requirements and management guidelines are considered essential for developments in these areas.

LAND CONSERVATION COUNCIL RECOMMENDATIONS

The final recommendations for the North-Eastern Study Area Districts 3, 4 and 5 state "where a number of other products are required from a catchment supply water used for domestic, industrial, or irrigation purposes, the catchment should be proclaimed under section 2291) of the *Soil Conservation and Land Utilisation Act* 1958 and also under section 5(1)(b) of the *Land Conservation Act* 1970."

The report states further "that in the case of the locations listed below and shown on the maps (all these locations being within catchments for which no land-use determinations have been made) the present tenure and management of public land continue for the time being and that once a land-use determination has been made, the following areas:

(i) the storage areas
(ii) diversion works
(iii) associated facilities
(iv) buffer strips around diversion works and storages as defined in the land-use determination
(v) any other allotment as specified below be used for
    (a) water supply purposes
    (b) other activities permitted by the water supply authority after consultation with the Soil Conservation Authority and the Environment Protection Authority and that these areas be permanently reserved under section 14 of the *Land Act* 1958 for water supply purposes, and be managed by the water supply authority named.

Note (I) The buffer should be wide enough to prevent direct pollution, to filter overland flow of water, and to control access. It's width will vary to suit differences in ground slope, soil type, vegetative cover, adjoining land use, and type of facilities available for treating the water.

D4 Lake William Hovell, State Rivers & Water Supply Commission.

In Councils proposed recommendations for the Alpine Area it is stated under Hardwood Timber Production - "Council intends to proclaim the remaining catchments in order to protect them. The Soil Conservation Authority will then, after consultation with the Council, prepare a land use determinations for implementation. The land use determination will have special regard for high-altitude catchments".

RECOMMENDATIONS

1. That the Authority approves this report and forwards it to the Land Conservation Council for consideration;

2. That the Land Conservation Council recommends to the Governor-in-Council that the King River (Lake William Hovell) Water Supply Catchment, as shown on plans S-742, be proclaimed under Section 5(1)(b) of the *Land Conservation Act* 1970 and Section 22(1) of the *Soil Conservation and Land Utilization Act* 1958.

LEGEND

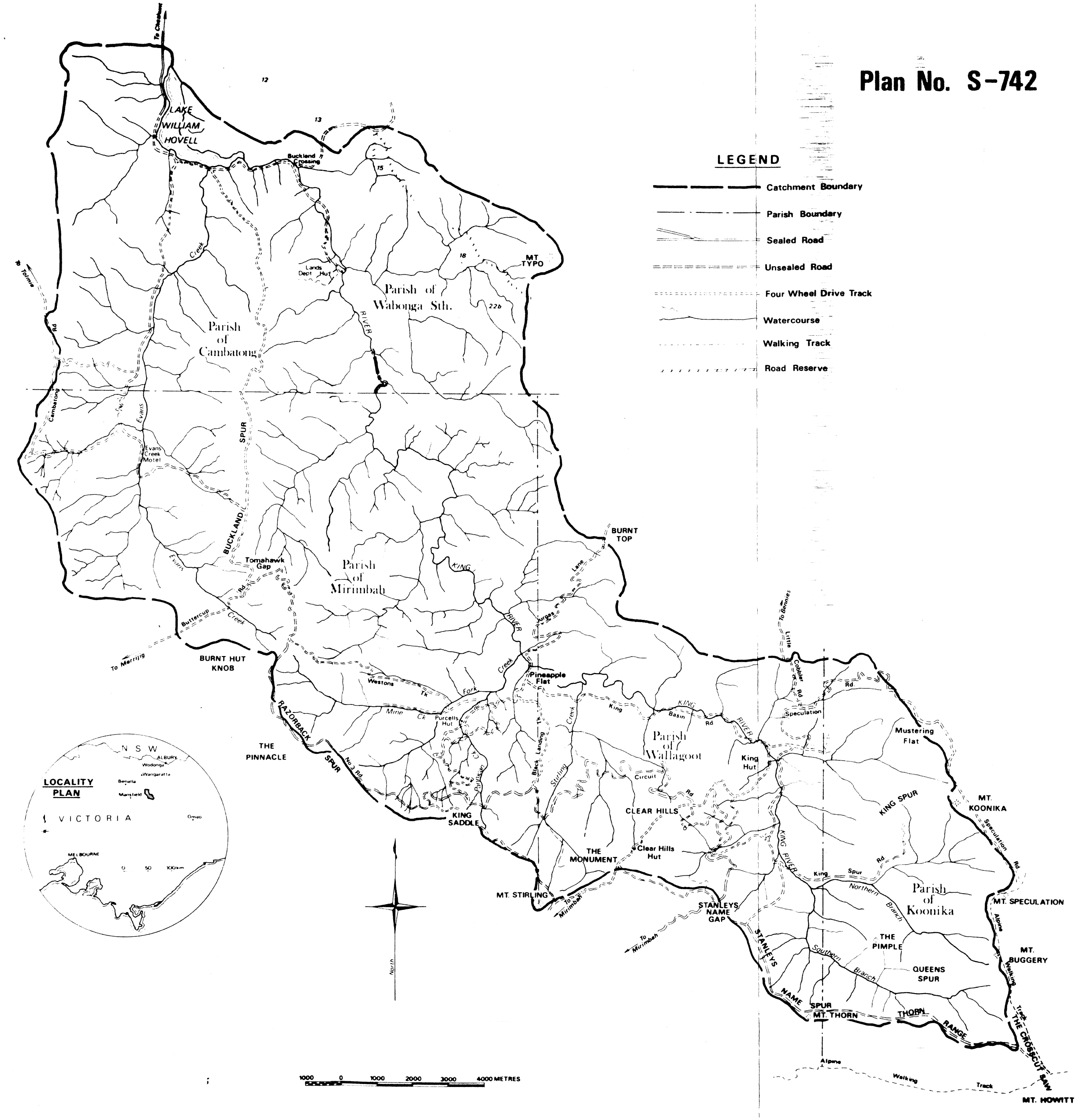
Final recommendations North-Eastern Study Area. Districts 3, 4 & 5.

- A2 Wabonga Plateau State Park
- B1 King Reference Area
- D4 Lake William-Hovell
- S1 Uncommitted Land

Proposed Recommendations Alpine Area

- A21 Cobbler - Viking Protection and Recreation Zone
- A50 Goulburn General Use Zone
- B3 Wabonga Plateau State Park
- I7 Mount Stirling Alpine Resort
- Once-only Logging

Plan No. S-742


LEGEND
Catchment Boundary
Parish Boundary
Sealed Road
Unsealed Road
Four Wheel Drive Track
Watercourse
Walking Track
Road Reserve
LAKE WILLIAM HOVELL
Buckland Crossing
Lands Dept Hut
MT. TYPO
Parish of Wabonga Sth.
Parish of Cambatong
Parish of Mirimbah
Parish of Wallagoot
Parish of Koonika
BUCKLAND SPUR
Tomahawk Gap
Evans Creek Motel
BURNT TOP
BURNT HUT KNOB
THE PINNACLE
RAZORBACK SPUR
KING SADDLE
Pineapple Flat
Purcells Hut
CLEAR HILLS
Clear Hills Hut
THE MONUMENT
MT. STIRLING
STANLEYS NAME GAP
STANLEYS NAME SPUR
King Hut
Mustering Flat
KING SPUR
MT. KOONIKA
MT. SPECULATION
MT. BUGGERY
THE PIMPLE
QUEENS SPUR
MT. THORN
THORN RANGE
THE CROSSCUT SAW
MT. HOWITT
KING RIVER
North
LOCALITY PLAN
N S W
VICTORIA
MELBOURNE
1000 0 1000 2000 3000 4000 METRES